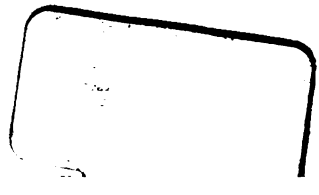

Purdy

1. Coast pilots, Atlantic ocean (South)

MEMOIR,

DESCRIPTIVE AND EXPLANATORY,

TO ACCOMPANY THE

NEW CHART

OF

THE ETHIOPIC

OR

SOUTHERN ATLANTIC OCEAN,

WITH THE

Western Coasts of South-America,

FROM CAPE HORN TO PANAMA.

AND COMPRISING,

I.—Tables of the Positions of Places, and of the Authorities, &c.; including Notes on the Variations of the Compass, and Descriptions of the Islands, &c.

II.—General Observations on the Winds, Tides, Currents, the Passages to Brasil, the Animals and Phænomena of the Ocean.

III.—Particular Descriptions of all the Coasts and Harbours; with Directions for Sailing, &c.

IV.—Addenda. Remarks on the Azores, Cape Verde Islands, Trinidad, Cape Bank and Coast, St. Helena, and Ascension, by Captains Livingston and Monteith; with additional Remarks on Tristan da Cunha, &c. &c.

COMPOSED FROM A GREAT VARIETY OF DOCUMENTS,

AS ENUMERATED IN THE WORK,

BY JOHN PURDY, HYDROGRAPHER:

AND ILLUSTRATED WITH FOUR PLATES, CONTAINING CHARTS OF THE FALKLAND ISLANDS, TERRA DEL FUEGO, AND SOUTH-SHETLAND.

London:

PRINTED FOR R. H. LAURIE,

CHART-SELLER to the ADMIRALTY, &c. &c.

No. 53, FLEET-STREET.

1822.

*** *By those who wish it, the accompanying* Chart *may be had, mounted on canvas, with an additional slip on the head, containing the* Northern Coast of Columbia; *so that, in this form, it exhibits the* whole *of the Coasts of South-America.*

*** THE COMMUNICATIONS OF INTELLIGENT SEAMEN, &c. FOR THE FUTURE IMPROVEMENT OF THIS WORK, ARE RESPECTFULLY SOLICITED.

THE PLATES ARE PLACED AS FOLLOW:

The Reader is requested to correct, with his pen, the Errata noticed on the last page.

[Entered at Stationers' Hall.]

PRINTED BY WEED AND RIDER, LITTLE BRITAIN, LONDON.

CONTENTS.

SECTION I.

TABLES of the POSITIONS of PLACES, and of the AUTHORITIES, &c. including NOTES on the VARIATION of the COMPASS.

SECTION II.

GENERAL OBSERVATIONS on the WINDS, TIDES, CURRENTS, the PASSAGE to BRASIL, the ANIMALS and PHÆNOMENA of the OCEAN.

SECTION III.

PARTICULAR DESCRIPTIONS of the COASTS, with DIRECTIONS for SAILING, &c.

ADDENDA.

MEMOIR, &c.

SECTION I.

TABLES *of the* POSITIONS *of* PLACES, *and of the* AUTHORITIES, *&c., including* NOTES *on the* VARIATION *of the* COMPASS.

HAVING explained in our former Book, the 'MEMOIR to accompany the CHART of the ATLANTIC OCEAN,' its principle and objects, we need not here enter into a similar detail; for the present may be considered as a continuation of that work; and we therefore give, at once, the Tables of the Positions, and the Authorities upon which they are grounded. These are arranged as follow:

1. The Coasts of Africa, from Sierra Leon to the Cape of Good-Hope.
2. The Eastern Coasts of South-America, from the River Orinoco to Cape Horn.
3. The Islands, Shoals, &c. of the Ethiopic Ocean, with Notes containing descriptions of the same.
4. The Western Coasts of South-America, from Cape Horn to Panama, with the adjacent islands, and descriptions of the harbours, &c.

1. THE COASTS OF AFRICA.

*** *The* FIGURES *in Parentheses refer to the* NOTES *subjoined to each Section.*

	LATITUDE.	LONGITUDE.	AUTHORITIES.
	° ′ ″	° ′ ″	
CAPE SIERRA LEON, [1] ..	8 30 0 N.	13 5 0 W.	Captain Sir Geo. Young, Officers of the Argo, Inconstant, &c.
FREE TOWN, Sierra Leon ..	8 29 40 —	13 0 0 —	
Cape St. Anne [2]	7 17 30 —	12 22 0 —	Requisite Tables, edition of 1802. *Since confirmed.*
North end of the shoals of St. Anne	8 15 0 —	— — —	Mr. Wm. Woodville.
Cape Mount [2]	6 45 10 —	11 17 30 —	Observations in the Amelia, Inconstant, &c.

COASTS OF AFRICA CONTINUED.

	LATITUDE.			LONGITUDE.			AUTHORITIES.
	°	′	″	°	′	″	
Cape Mesurado, or Monserrado [3]	6	25	0 N.	10	36	0 W.	Ocean, East-India ship, Jan. 1802; Amelia, frigate, 1812.
Grand Sestros, or Sesters	4	40	0 —	8	4	0 W.	Royal Charlotte, East-India ship, Inconstant, frigate, &c.
Cape Palmas [4]	4	30	0 —	7	41	0 W.	Sir G. Young, Requisite Tables, Royal Charlotte, E.I. M. 1793, and Inconstant, frigate, 1816, 1817, *all agreeing*.
St. Andrew's Bay	5	0	0 —	6	3	0 W.	Sir G. Young, Mr. Norris, and Mr. De Mayne.
Lahou, the Town	5	13	30 —	4	47	0 W.	Lat. mean between Sir G. Young and Mr. De Mayne: Long. inferred from St. Andrew's Bay.
Cape Apollonia [5]	4	59	12 —	3	0	0 W.	Lat. Requisite Tables, &c. Long. mean between the same and the observations of Mr. De Mayne.
Fort Apollonia	5	0	15 —	2	54	26 W.	
Cape Three Points, Western Pt.	4	43	0 —	2	39	0 W.	Mr. Ant. De Mayne, H.M. Ship Amelia, 1812.
St. George del Mina, or Elmina	5	1	0 —	1	45	0 W.	Lat. Mr. De Mayne: Mr. Crear, in the Inconstant, made the latitude 5° 0′; the Requisite Tables, 5° 1′ 38″.
Cape Coast Castle, Road [6]	5	3	30 —	1	38	0 W.	Lat. Amelia and Inconstant, differing only one minute. For the longitude, see Note 6.
Annamaboe	5	8	30 —	1	26	0 W.	Lat. Mr. De Mayne's Chart, &c.: Long. inferred from Cape Coast Castle.
Cormantine	5	10	0 —	1	20	0 W.	Lat. Req. Tables: Long. inferred from Cape Coast Castle.
Accra [7]	5	27	30 —	0	10	0 W.	Lat. mean between the Amelia and Inconstant: but both make the longitude more to the East.
Cape of St. Paul	5	44	0 —	0	54	0 E.	The mean of several observations.
Quitta	5	55	0 —	1	2	30 —	
Little Popoe	6	11	52 —	1	34	0 —	Lat. mean between the Amelia and Inconstant: Longitude inferred.
Whydah, factory	6	17	0 —	2	7	0 —	Lat. Mr. De Mayne: Long. Inconstant, Sir James Yeo, 1817, &c.
Porto-nova	6	17	30 —	2	38	0 —	Lat. Mr. De Mayne: Longitude, Inconstant, (lunars,) &c.
Lagos River [8]	6	22	30 —	3	27	0 —	Lat. Mr. De Mayne: Longitude inferred.
Entr. of River Benin	5	40	0 —	5	2	0 —	Lat. Capt. Archibald Dalzel, 1785: Long. inferred.

COASTS OF AFRICA CONTINUED.

	LATITUDE.			LONGITUDE.			AUTHORITIES.
	°	′	″	°	′	″	
Cape or Point Formosa	4	20	30 N.	5	30	0 E.	The mean of several discordant observations. Mr. De Mayne gives the lat. of the River as 5° 8′, and the long. of the Cape 6° 0′.
Ramos River	5	6	0 —	5	20	0 —	
Fernando Po, N.W. Bay [9]	3	28	0 —	8	2	0 —	Lat. Conn. des Tems: Longitude inferred.
Prince's Island, Fort of S. Antonio, on the E. side [10]	1	27	0 —	7	26	0 —	Inconstant Sir Jas. Yeo, 1816, confirming a previous statement.
St. Thomas's, Man of War Bay [11]	0	27	0 N.	6	48	0 —	Lat. mean of several accordant observations. Long. mean and Conn. des Tems.
Anno Bona, or Anno Bon, Road [12].....	1	25	0 S.	5	45	0 —	Don Jos. Varela, 1779; Queen, E.I.S., 1796, &c. confirmed by Capt. A. Bristow and other commanders.
Bimbia.....	3	52	0 N.	8	54	0 —	Inferred, by a Manuscript Chart.
Cape St. John [8]	1	15	0 —	8	49	0 —	Latitude, Inconstant, &c. Long. inferred, as shewn in Note 8.
Cape Clara	0	27	0 —	8	54	0 —	
Cape Lopez [8]	0	58	53 S.	8	58	0 —	Lat. Mr. De Mayne. Long. inferred as above.
Cape Yumba	3	30	0 —	10	0	0 —	The mean of different observations, excluding those of the Congo, Captain Tuckey, in 1816.
Malemba	5	22	0 —	11	59	0 —	
Cape Padron [8].....	6	12	0 —	12	29	0 —	
Ambriz Bay.....	7	51	0 —	13	20	0 —	
St. Paulo de Loando, Flagstaff [13]	8	50	0 —	13	50	30 —	Lat. Captain Arch. Dalzel. Long. as above.
Benguela [8]	12	29	0 —	13	28	45 —	Capt. P. Heywood, H.M. Ship Nereus, from and to St. Helena, 1811.
Redonda, or Round Hill....	13	20	0 —	12	40	0 —	The mean results of different observations, compared with the best charts and descriptions. It is, however, to be remarked that, very few observations for longitude have been made near these points. The most valuable are those of Capt. Heywood, between Benguela and Cape Negro, taken in his Majesty's ship Nereus, in 1811. A complete series is yet a desideratum. We believe, however, that we are, in general, near the truth. All the latitudes appear to be ascertained.
Bird's Bay, or Port Alexander	15	52	0 —	12	13	0 —	
Cape Negro [14]	16	2	0 —	11	54	0 —	
Fish Bay, N.W. Point [15]..	16	29	45 —	12	3	0 —	
Cape Sierra, Village	21	53	50 —	14	40	0 —	
Walvisch Bay, Entr.	22	54	0 —	14	40	0 —	
Porto d'Ilheo, or Sandwich Harbour	23	30	0 —	14	45	0 —	
Islet Point of Bird Island ..	24	35	30 —	14	45	0 —	
Alligator Rocks [16]	24	38	0 —	14	24	0 —	
Spencer's Bay	25	46	0 —	15	8	0 —	
Angra Pequena, or Santa Cruz Bay [17].....	26	36	50 —	15	17	0 —	
Elizabeth Bay, The Isle	27	0	0 —	15	21	0 —	
Cape Voltas.....	28	42	0 —	16	20	0 —	
St. Martin's Point, at St. Helen's Bay [18].....	32	40	0 —	17	53	30 —	Latitudes as above: Longitudes deduced, by survey, from that of Cape Town.
Saldanha Bay, Entrance [19]	33	6	0 —	17	58	0 —	

Purdy

curacy which we have generally found in Captain Heywood's very numerous observations, as well as the particular circumstances of this route, incline us to give his result with a confidence which we should not readily concede to an ordinary, or less experienced, observer.

Mr. De Mayne, in his survey of Benguela Bay, in 1812, gave the latitude as 12° 33½′, and the longitude as 13° 55′.

Cape Padron, in latitude 6° 12′ S., was formerly laid down in longitude 12° 25′, being the mean result of ten sets of lunar distances, taken by Captain J. A. Wood, in H.M. ship Garland, 1798. We have placed it only four minutes more to the east; but the Amelia's observations, by chronometer, fifteen days from St. Helena, made it 12° 33′; and the officers on the expedition to the Congo, in 1816, made it 12° 40′. The last is totally rejected, and we fear that none of the longitudes given in Captain Tuckey's Narrative are intitled to farther notice.

The Main Land of Africa, in latitude 1° 37′ S., was observed in the Lord Eldon, East-Indiaman, 1802; when lunar observations, with the mean of three chronometers, gave the longitude as 9° 8′ E. But the Georgiana, by lunars, 4th October, 1798, in latitude 1° 9′ S., made the longitude of that part of the coast 9° 16′; and hence we may conclude, that the landfall of the Lord Eldon should be rather more to the eastward. Thus we advance towards the longitude of Cape Lopez, which has not been definitively ascertained. Mr. De Mayne has, indeed, given the latter as 9° 17′ 30″; but this, we presume, is too far to the east by about nineteen minutes. Captain Horsburgh, from former observations, gives it in only 8° 40′ E.

Bimbia is given from a manuscript draft of the Gulf of Biafra, in the possession of Mr. Laurie, and which, as well as other charts, exhibits it only five minutes to the west of the meridian of Cape Lopez.

Cape St. John was given from observations made in the Inconstant, 1816, as in 1° 15′ N. and 9° 15′ E. Cape Clara, on the north side of the River Gaboon, from the same, as in 0° 24′ N. and 9° 15′ E. The first, as shown in the Table, from reasons already explained, we reduce to 8° 49′ E., and the latter to 8° 54′ E.

Mr. Bowdich says that the entrance of the River Gaboon is placed by some in 30′ N. and 8° 42′ E., by others on the equator, and in 9° 23′. He adds, the former longitude is the more correct, judging from three *reckonings* of the vessel in which he visited it; but he had not the requisites for an observation. The former latitude is, he says, the correct one of Cape Clara. See the *Sailing Directions*, hereafter.

9. Fernando Po is stated, both by the Connaissance des Tems and Requisite Tables, as in 3° 28′ N. and 8° 40′ E. by chronometer. The same observation, it may be presumed, has served for both. Our documents place the N.W. bay about 74 minutes east of Man of War Bay; and, as the latter best agrees with the corrected coast to the northward, we have adopted it.

10. Prince's Island.—The position of the port of this island is given in the Requisite Tables and Connaissance des Tems as 1° 37′ N. and 7° 40′ E. But the difference of longitude, according to better documents, prove this to be incorrect. The Glatton, in 1799, made this island, by estimation, more to the west than we have given it; but, as it lies to the eastward of a right line drawn from the western extremities of St. Thomas and Fernando Po, this cannot be taken into account. The Inconstant, Sir James Yeo, in 1816, made the S. E. Bay as stated in the Table, and this, so far as we can judge from other observations, appears to be correct.

11. Island of St. Thomas.—The anchorages of St. Thomas are on the eastern and northern sides of the island. Between them is the islet Cabrita, off the N. E. coast. The northern one, which has the greatest depth of water, is called Man of War Bay; and the southern, St. Anna de Chaves Bay. The latter is stated, in the Connaissance des Tems, to be in longitude 6° 48′; and, in the Requisite Tables, in 6° 42′ 30″: the Inconstant, 1816, made the longitude of Man of War Bay 6° 42′; and, in 1817, 6° 46′ The Amelia, in 1812, made it 7° 4′. But, upon the whole, we conclude that 6° 48′ is correct. Captain Horsburgh gives the north end as in only 6° 37′ E.

12. Anno Bona, or Anno Bon.—We have repeated the position as in our former editions, from the assurance of several commanders that it is correct. Captain Varela con-

concluded the longitude of the roadstead on the eastern side of the island to be 5° 45′ E. and the Queen's chronometer indicated the western side to be in 5° 32′. The Inconstant, in 1817, made the N. E. point of the island 1° 25′ S. and 5° 42′ E.

13. St. Paul de Loando.—Mr. De Mayne represents the castle of Santa Cruz as in 8° 47½′ S., and 13° 53′ E.

14. Cape Negro is the summit of a very obtuse angle, formed by the two sides of the peninsula that bears the same name. The Portuguese ships from Brasil, when bound to Benguela or Angola, generally make this cape, either in coming from sea, or in standing from the southward along the coast. A pillar of alabaster, bearing the arms of Portugal, was erected on the cape by Barth. Diaz, in 1486, and still remains as a sea-mark. The cape is surrounded with a reef of heavy breakers, that extend about a league and a half to seaward. Off the coast, between Benguela and Cape Negro, there is, generally, from fifty to seventy fathoms of water, at two or three leagues from shore.

15. Fish Bay.—This is a fine harbour: its entrance is two leagues broad, and has thirteen fathoms. The depths gradually decrease to ten, seven, and three, fathoms. It abounds with fish. The Admiralty plan represents the N.W. point in 16° 31′ S., and only 11° 54′ E. the meridian of Cape Negro; but this is, we presume, too much to the *west*.

16. Alligator Rocks.—The latitude of these rocks, which have been omitted in some modern charts, is given from the observations of Captain Wood, H.M.S. Garland, 1798. This gentleman describes the principal rock to lie six leagues from shore, with breakers to the S.W. two leagues.

17. Angra Pequena.—On a rock, at the entrance of this bay, is a marble cross, with the arms of Portugal, which was erected by B. Diaz, in 1486. Captain Wood has noticed that, at eleven miles from shore, off this bay, there is a dangerous shoal. It is said that no fresh water is to be obtained on the coast between this and Fish Bay.

18. St. Helen's Bay.—The point of St. Martin is low, and projects from high land forming the western side of the bay. Within it are regular soundings of ten and twelve fathoms, with six and five fathoms near shore; bottom of sand and shells. A small rivulet, called Berg River, falls into the bottom of the bay: there are some springs near it, and a few houses on either side. In the summer, when southerly winds prevail, the anchorage is safe, being exposed only to the north and west: but it is, therefore, unsafe in winter. Variation 26° 40′ W. 1807.

19. Saldanha Bay.—This is an excellent harbour, wherein the largest fleet of ships may lie sheltered from all winds. The passage in lies between two islands, called Jutten and Mallegasen. Within is another island called Mascus, which may be passed on either side. See the particular plan on the Chart of Good-Hope, &c., published by Mr. Laurie. In the bay called Hoetjes Bay, on the north side, there is good anchorage for the largest ships: and there is deep water on the west side of it, close to a natural pier of granite. Here ships may lie in perfect safety, in all seasons. Those in want of careening or repair are sent hither from the cape. The great disadvantage of the place is the scarcity of good water.

20. Cape Town, &c.—For the position of this town we have consulted the results heretofore given by the Abbe de la Caille, Messrs. Mason and Dixon, Captains Horsburgh, Heywood, &c., and we feel rather confident, that the cape lies not more to the southward or eastward than as represented in the Table. The Cape Point has been deduced from the town, by means of a manuscript survey in possession of the Editor. The extreme point of the Cape lies 1′ 45″ to the eastward of the south point, as the latter forms a kind of elbow, and it is, therefore, in longitude 18° 33′ 55″. Captain Flinders has noticed (vol. I. p. 37, 8.) that the latitude of the south point, as given by Captain King, 34° 23′ appeared to be correct. Our deduction gives only forty seconds more; but it is represented, in the Requisite Tables, as in 34° 29′ S.

Captain Grant says, "On entering Table-Bay, every voyager is attracted by the majestic appearance of the Table-Hill, whose head is often hidden amongst the clouds. Many writers have given measurements of this mountain: the following will, I trust, be found correct. During my stay at the Cape I had the good fortune to procure them.

"Height

"Height of the Lion's Rump, in yards, 382; Sugar-loaf, 720; West-end of the Table Land, 1174; East-end of the same, 1195; length of the Table-Hill, 1760: Height of the highest point of the Devil's Berg, 1105; shoulder of the same, 474.

"These are the perpendicular heights of all the most conspicuous parts of this majestic pile of nature; at the foot of which, facing the bay, stands Cape Town." (*Grant's Voyage.*)

The Colony of Good-Hope was finally ceded to Great Britain by convention with the United Netherlands, signed at London, 13th of August 1814; which, however, stipulates that the ships of every kind, belonging to Holland, shall have permission to resort freely to the Cape of Good-Hope, for the purposes of refreshment and repairs, without being liable to other charges than such as British subjects are required to pay.

21. Simon's Bay.—It has been asserted that Simon's Bay is in latitude 34° 15'. On the contrary, Captain Vancouver has said, "Our observatory was situated near the south point of this bay; and its latitude, deduced from twenty-six meridional altitudes of the sun and stars, was 34° 11' 40": this, on allowing the distance to the Cape Point, will be found nearly to agree with its latitude." See *Vancouver*, vol. I. p. 19. The variation of the compass, by twenty sets of azimuths, which varied from 24° 3', to 27° 28', at a mean, 25° 40' W., August 1791.

Of Simon's Bay, Captain Flinders has said, "I found it to be a prevailing sentiment that, were it not for the advantages of Cape-Town, Simon's Bay would, in every respect, be preferable for the Royal dock-yard, and the equipment of his Majesty's ships. It was remarked to me, by an officer of discernment, captain of the flag-ship, that instances of vessels being driven from their anchors, by winds blowing into Simon's Bay, were exceedingly rare. He had observed that the strain upon the cables, with these winds, was much less than with those of equal strength, blowing off the land; and he accounted for it from the water thrown into the bay, by sea-winds, rebounding from the shore, and forming, what is called, an *undertow*, which tended to keep a ship up to her anchors. This takes place in Simon's Bay, with the S. E. winds, but not in Table-Bay, with those from the N.W., which blow into it; owing, in part, to the distance at which ships there ride from the land; and apparently, also, from the undertow passing out on the eastern side of the bay, clear of the anchoring ground."

22. Cape Recife.—This cape has lately been represented by Captain Fairfax Moresby, R. N. as in 34° 2' S. and 25° 39' E. See the description of Algoa Bay, &c., in its appropriate section, hereafter.

23. Bird Islands.—These are three low isles, with several black rocks about them; the extent of the whole is three or four miles, nearly W. by N., and E. by S. They lie six or seven miles from the main land; and in the mid-channel, between the depths, are from seventeen to twelve fathoms. The isle, of which the position is given, is about one-quarter of a mile in extent, of a round form, and covered with gannets and penguins.

VARIATIONS of the Compass.—The present variation at Sierra Leon is about 15° W. Off Cape St. Anne, 16°. Off Cape Palmas, 17½°. Off Cape Three Points, 18°. Off Cape Formosa, 19°. At St. Thomas's, 20°. At St. Paul de Loando, 22°. At St. Philip de Benguela, 22½°. Off Cape Negro, 23½°. Elizabeth Bay, 25°. St. Helen's Bay and Cape of Good-Hope, 26° W.

[All the particular Charts of the Western Coasts of Africa, published by Mr. Laurie, have lately been adjusted according to the Positions given in the preceding Table.]

2. *The* COASTS *of* GUYANA, BRASIL, &c., *from the* RIVER ORINOCO *to* CAPE HORN.

	LATITUDE.			LONGITUDE.			AUTHORITIES.
	°	′	″	°	′	″	
MOUTH of the RIVER ORINOCO.							
Isle Congrejos, N.E. Point	8	51	0 N.	—	—	— W.	Don Cosmé Churruca and the Baron Alexander de Humboldt.
Pt. Barima, or Cape Breme [1.]	8	44	30 —	60	3	0 —	
Vieja Guayana	8	8	24 —	62	23	0 —	
ANGOSTURA, or St. Thomé de Nueva Guayana [2.]	8	8	11 —	63	55	0 —	
Borbon	8	1	0 —	64	29	0 —	The positions of places on the River Orinoco, given by the Baron Alexander de Humboldt, in his '*Personal Narrative of Travels to the Equinoctial Regions of the New Continent, during the Years* 1799—1804.'
Muitacu, or Real Corona	7	59	0 —	64	45	0 —	
Piedra, City of	7	50	0 —	64	58	0 —	
Alta Gracia	7	41	30 —	66	7	0 —	
Caycara	7	36	30 —	66	40	0 —	
La Concepcion de Uruana	7	7	0 —	67	20	0 —	
BOCA de GUAYMA, or Mouth of the Guayma [1]	8	25	0 —	59	52	0 —	Latitude, '*Derrotero de las Antillas*:' Longitude inferred by Chart.
Corrobana Point, Demerary [3.]	6	48	0 —	58	1	35 —	Captain Edward Thompson, R.N., &c.
Brams Point, Surinam	5	52	30 —	55	15	0 —	The late Capt. T. Goodall.
Paramaribo	5	44	30 —	55	13	30 —	Deduced from Brams Point.
Cayenne [4.]	4	56	15 —	52	15	0 —	M. de la Condamine, and the French engineers.
St. Luis of Oyapok, Fort [5.]	3	57	0 —	—	—	— —	
Cape North	1	51	0 —	—	—	— —	
Cape Maguary	0	17	0 S.	48	33	0 —	Lat. Mr. J. Pedler, R.N., and French Tables: Long. inferred, by survey, from Maranham.
PARA, or BELIM, on the River Para [6.]	1	28	0 —	48	35	0 —	
St. Marcos Point, Maranham [7.]	2	28	0 —	44	15	0 —	Lieut. Wm. Hewett, of the Royal Navy, from meridional and chronometric observations, made in the Inconstant frigate, when commanded by Sir Edward Tucker, in the year 1814.
North End of the Middle Bank, Maranham	2	17	0 —	44	10	30 —	
Mount Itacalumi [8.]	2	8	0 —	44	24	0 —	
St. Anna's Island	2	18	0 —	43	43	0 —	
Point Macoripe, near Seara [9.]	3	40	30 —	38	27	0 —	
Island of Fernando Noronha, the Peak [10.]	3	54	40 —	32	33	10 —	The mean of lunar and chronometric observations made in several East-India ships, &c.
The Roccas	3	52	0 —	33	29	0 —	
Cape St. Roque [11.]	5	16	0 —	35	32	0 —	
Cape Ledo	6	50	0 —	35	7	0 —	
Olinda Point	8	0	0 —	34	50	0 —	Lieutenant Wm. Hewett, in the Inconstant, as above mentioned, 1814, 1815.
Pernambuco, *Tower of Fort Picao* [12]	8	3	30 —	34	52	0 —	
Cape St. Augustin	8	23	0 —	34	56	0 —	

COASTS OF GUYANA, &c. CONTINUED.

	LATITUDE.			LONGITUDE.			AUTHORITIES.
	°	′	″	°	′	″	
Bahia, Cape St. Antonio [13.]	13	0	30 S.	38	24	0 W.	Lieutenant Wm. Hewett, in the Inconstant, as before mentioned.
Porto Seguro, *Bar*	16	27	0 —	39	10	0 —	The late Charts; but not well ascertained.
Abrolhos (*Islets*)	18	0	0 —	38	38	0 —	Lat. Lieut. Hewett: Long. inferred from Cape Frio.
Espiritu Santo, *Entrance*	20	16	0 —	39	40	0 —	The late Charts; but not well ascertained.
Cape Frio [14.]	23	1	0 —	41	59	0 —	The mean of numerous observations, by Capt. P. Heywood and other officers.
Rio de Janeiro [15.]							
Redonda, or Round Island	23	4	0 —	43	0	20 —	
Ilha dos Ratos	22	53	30 —	43	0	0 —	
Eastern Entrance of the Harbour of Ilha Grande	23	15	0 —	43	48	0 —	Lat. observed: Long. inferred from Rio Janeiro.
Island of St. Sebastian, S.E. Point	23	49	0 —	45	9	30 —	Captain P. Heywood, R.N. 1810.
Barra de (Bar of) Santos	24	2	30 —	46	2	30 —	Survey of the Coast from Barra de Santos to Guaratuba, made under the directions of the late Adm. Campbell. (London, 1807.) *Particulars not given.*
Iguape	24	42	0 —	47	6	0 —	
Cananea	25	4	30 —	47	30	0 —	
Paranagua	25	31	30 —	47	51	0 —	
Guaratuba	25	52	0 —	48	8	0 —	
Island of St. Catharine [16.]							
N.N.E. Point	27	19	10 —	47	49	20 —	The Russian navigators, Captain Krusenstern and Dr. Horner, in 1804.
Fort of Santa Cruz, on Atomery Island	27	21	58 —	—	—	— —	
Bar of the Rio Grande, or Port St. Pedro	32	9	0 —	51	54	0 —	Inferred by a Spanish manuscript Chart, from the Isle Lobos.
Cape Santa Maria	34	39	0 —	53	56	0 —	The Spanish surveyors of the Rio de la Plata, compared with the observations of Captains Heywood and Beaufort, of the British Navy.
Isle of Lobos	35	1	30 —	54	36	30 —	
Maldonado Bay, *East Point*	34	57	30 —	54	41	0 —	
Monte Video, *Castle of St. Philip* [17.]	34	54	48 —	56	5	30 —	
Buenos Ayres [18.]	34	36	0 —	58	16	0 —	
Punta Piedras	35	27	0 —	56	58	30 —	
Cape St. Antonio	36	19	15 —	56	37	0 —	
Cape Corrientes	38	0	0 —	57	40	0 —	The observations of the celebrated Malaspina and other officers, who surveyed the Coasts from the Rio de la Plata to Panama, under the orders of the Spanish government, in and subsequent to the year 1790.
Port Valdez [19.]	42	30	0 —	63	40	30 —	
—— St. Elena or Helena	44	32	0 —	65	29	45 —	
—— St. Antonio	45	2	30 —	65	49	0 —	
—— Malaspina	45	11	15 —	66	40	0 —	
—— Cordova	45	45	0 —	67	27	30 —	
Cape Blanco	47	16	0 —	65	59	30 —	
Port Desire	47	45	0 —	66	3	30 —	
—— St. Julian	49	8	0 —	67	43	30 —	
—— Santa Cruz	50	17	30 —	68	31	30 —	
River Gallegos (Entrance)	51	40	0 —	69	5	0 —	
Virgin's Cape	52	21	0 —	68	17	40 —	
Cape St. Esprit	52	41	0 —	68	25	30 —	
—— St. Ines	54	8	0 —	66	57	45 —	
—— St. John	54	47	10 —	63	42	30 —	

COASTS OF GUYANA, &c. CONTINUED.

	LATITUDE.	LONGITUDE.	AUTHORITIES.
	° ′ ″	° ′ ″	
New-Year (Island) Harbour	54 48 55 S.	63 59 30 W.	
Bay of Success	54 49 45 —	65 15 0 —	
Cape Success	55 1 0 —	65 17 30 —	
Port Noel	55 21 57 —	69 47 30 —	The observations of the celebrated Malaspina and other officers, &c.
Evoat's Isles	55 32 15 —	66 47 30 —	
Barnevelt's Isles	55 49 0 —	66 49 30 —	
Cape Horn	55 58 30 —	67 21 30 —	
Isles of St. Ildefonso	55 51 0 —	69 17 30 —	
Isles of Diego Ramirez	56 27 30 —	68 39 30 —	

NOTES.

1. Mouth of the Orinoko.—Point Barima, otherwise Point Sabaneta, forms the eastern side of the creek Mocomoco; then follows the coast called Sabaneta, trending nearly west, about four leagues. There has been a sad mistaking of points hereabout, from want of a good chart, for all yet seen have been infamously bad; no survey of the mouth of this river having yet appeared.

For the positions given by M. de Humboldt, see the English translation of his 'Personal Narrative,' vol. v. p. 719, 20.

"About eight leagues to the S.E. from Point Barima is the mouth of the Guayma, in latitude 8° 25′. The making of this mouth is very necessary for those who seek the great entrance of the Orinoco; as there is no other point which can be used with certainty as a mark, and it cannot be mistaken; not only because it is the sole entrance or opening which can be seen, but also on account of three little hills, or hillocks, which may be seen, if the day be clear, bearing about S.W., at some distance in-land." See, with regard to a sand-bank, &c., the Description and Directions hereafter.

2. Angostura.—M. de Humboldt says that, since the end of the sixteenth century three towns have successively borne the name of St. Thomas of Guyana. The first was at the confluence of the Carony and the Orinoco, and was destroyed by the Dutch, in 1579: the second, founded in 1591, near twelve leagues east of the mouth of the Carony, made a courageous resistance to Sir Walter Raleigh: the third, now the capital of the province, was begun in 1764, and is distinguished in the public documents from the second town, vulgarly called the Fortress or Old Guyana, by the name of St. Thomé de la Nueva Guayana; but this name being very long, that of Angostura (the *Strait*) has been commonly substituted for it.

The decree of the Sovereign Congress, establishing the republic of Columbia, was dated at this town, on the 17th of December, 1819. Under this decree the republican æra commenced on Christmas-day, the 25th of the same month.

3. Demerary.—The position given in the Tables accords with that given in the Spanish Book of Directions, entitled "Derrotero de las Antillas," of which we have been favoured with a complete translation, from the pen of Captain Andrew Livingston.

4. Cayenne.—The situation of this town was given by M. la Condamine, in 1774, from four eclipses of the first satellite of Jupiter; the latitude, as in the Table; the longitude, 52° 16′ 30″; a subsequent rectification makes the latter 52° 15′, as it now stands in the French tables.

5. Oyapok River to Cape North.—From the Oyapok River to Cape North, the land is very low and wet, and covered with a thick wood, without any other mark to recognize it by than the hill called *Mount Mayez*, which is a kind of insulated platform, that may be seen, in clear weather, at the distance of five or six leagues: its latitude is 3° 5′ N. The soundings off this coast extend far out to sea. The point of Casipur, at the entrance of the river of that name, lies in the latitude 3° 50′.

Cape Orange may be known by a point, which seems to have been cut, or shortened, on the side next the sea, and which is higher than any of the land to the S.E. It may, also

also, be known by the mountains of Plata, or Silver Mountains, which form various peaks, that appear insulated and detached. On approaching Cape Orange, you may discover various remarkable hills, which appear over the point that forms the entrance of the river Oyapok.

6. PARA.—The Connaissance des Tems and Requisite Tables give the longitude of Para, from an old observation, as 48° 40′ W. On the other hand, a survey of the lower part of the river, by Mr. Pedler, gives it as only 47° 58′. The latitude, according to the latter, is 1° 27′ 30″, confirming that before given.

7. MARANHAM.—The positions of Maranham, and the other points of the north coast of Brasil, were first made known by Lieut. Hewett, in the year 1817, in the Book which accompanied the Chart of the Coast, published by Mr. Laurie: the latitudes, from meridional observations made on the spot; and the longitudes by two excellent chronometers. The officers of the Rhin, frigate, in 1813, from lunar observations, placed Maranham fifteen minutes more to the west; but others have placed it considerably to the eastward of the longitude given in the Table.

Until the appearance of the Chart above mentioned, there was not one chart of the coast of Brasil that could, in any degree, be relied on. As to longitude, a chart published at London, as a *new one*, so late as 1808, represented Maranham nearly two degrees too far to the west; a most serious error, considering the nature of the coast: and, in the months of August, September, October, and November, deemed inaccessible, from the thick haze which hangs over the land at that season of the year.

In his '*Personal Narrative*,' (vol. v. p. 720,) M. de Humboldt says, "According to the excellent observations, yet unpublished, of Baron de Roussin, captain in the French navy, who lately made a survey of the coast of Brasil, the latitude of Fort S. Antonio de la Barra is 2° 29′ 2″ south, longitude 44° 14′ 59″, (say 44° 15′)." This point is the next within that of S. Marcos, and the coincidence, as to its situation, is pleasing and satisfactory.

8. MOUNT ITACALUMI.—This object appears in the shape of a gunner's coin, and is remarkable only from the low land in the vicinity. See the Sailing Directions, hereafter.

9. POINT MACORIPE.—This point forms the eastern side of the Bay of SEARA, which thence extends about four leagues to the westward. The bay is described hereafter.

10. FERNANDO NORONHA.—A description of this island, and of the Roccas to the westward, is given in the next section.

11. CAPE ST. ROQUE.—The point to which modern navigators have commonly applied the name of CAPE ST. ROQUE is the PONTA PETETINGA of Pimentel, and other old geographers, situate at the distance of five leagues northward from the headland to which the name is properly applied. We assume as Cape St. Roque a headland distinguished by its *red cliffs*; while Pimentel gives the name to a *black* point, two leagues still more to the southward.

12. PERNAMBUCO with OLINDA are fully described in the Sailing Directions hereafter, which will be clearly understood on referring to the Charts by Lieut. Hewett. Here it may be noticed, that Pernambuco has been commonly laid down several minutes more to the south, and likewise to the west, of the situation assigned; a few more observations may, therefore, be useful for determining this point.

13. BAHIA or ST. SALVADOR.—Cape San Antonio is distinguished by a fort, on which is a lighthouse; the position has been, like that of Pernambuco, commonly represented more to the south and west. The officers of the Nereus, Captain Heywood, in 1813, by an observation made within sixty yards of the fort, inferred the latitude to be 13° 2′ 46″, and the longitude 38° 29′. Captain Horsburgh, on the contrary, quotes the latitude as 12° 58′ only, and longitude 38° 13′; from observations taken in the East-India Company's ships.

14. CAPE FRIO.—The latitude seems fully ascertained, from the concurrence of several observers. Of the longitude we are not so well satisfied. The officers under Captain Heywood give it as in the Table. Lieut. Hewett, as 42° 7′. Captain Krusenstern, the Russian navigator, as only 41° 36½′. The separate observations (lunars) of Captains Mortlock and Torin (East-India Company's service) gave 41° 42′. Captain Broughton stated it, in 1795, as 41° 53′ 12″. By Captain Heywood's chronometers, in 1810, it appeared to be 41° 54′. Lunar observations, by the same, made it a few minutes more to the west.

15. RIO-

15. Rio-Janeiro, &c.—The difference of longitude between Cape Frio and Rio-Janeiro has been so repeatedly measured by chronometers, &c., as to leave little or no doubt as to the true distance. At all events, that assumed is sufficiently exact for the course, &c.

16. Island of St. Catharine (Santa Catalina).—The Isle Atomery, on which is the fort of Santa Cruz, is situate on the western side of the first strait within the entrance. It was on this isle that the Russian navigators erected their observatory; the polar elevation of which, according to the mean of several meridional altitudes, is shown by the latitude in the Table. The longitude, by mean of several lunar observations, made by Dr. Horner the astronomer, and Captain Krusenstern, was 48° 0′; by Arnold's large watch, No. 128, 47° 51′. M. la Perouse, in 1785, gave the longitude of the N. E. point 20′ 20″ to the eastward of that of Captain Krusenstern.

17. Monte-Video.—The last edition of the Spanish Survey of the Rio de la Plata, 1815, represents the Castle of St. Philip, on the eastern side of the Bay of Monte-Video, in longitude 56° 13′; but that of the British officers in only 56° 3′. The longitude given in the Table is that deduced from different chronometric measurements between this and Cape Frio, assuming Cape Frio in 41° 59′, the longitude given in the Table. Monte-Video, the mount on the western side of the bay, is 450 feet high; on its summit is a light-house, described in the Sailing Directions.

18. Buenos Ayres, according to the British officers, is 2° 10′ west from the light-house on Monte-Video. The Spanish officers make this difference, 2° 7′ 30″.

19. Port Valdez to the Isles of St. Ildefonso.—We consider the positions, on the authorities here given, as emendations of all that have preceded them. M. la Perouse has most respectfully noticed the observations made by Captain Cook on several of these points: and, with respect to Cape St. John, Captain Krusenstern has said, that he considered Captain Cook's as the true longitude, all the others differing only a few minutes from his. This was 63° 47′ 0″. It is, however, to be remarked that Captain Krusenstern's large time-piece, No. 128, by Arnold, which he had before pronounced the best of his chronometers, gave 63° 42′ 30″ W., the precise longitude given in the Table.

VARIATIONS of the COMPASS.—On all the coasts described in this section the variation of the needle is to the eastward of the true meridian. Near the mouth of the Orinoco, about 3°; near Maranham, 2°; the same at Bahia; off Cape Frio and Rio Janeiro, 3°; Island of St. Catharine, 7°; Mouth of the River Plate, 12 to 13°; off Cape Corrientes, 14°; off Port Valdez, 20°; off Port Desire, 21°; off Cape St. John, 22°; and off Cape Horn, 23°.

3. The ISLANDS *and* SHOALS *of the* Ethiopic *and* Southern Oceans, *with* Descriptions *of the same.*

	Latitude.			Longitude.			Authorities.
	°	′	″	°	′	″	
Penedo de S. Pedro, or St. Paul's [1]	0	55	0 N.	29	15	0 W.	Captain Williams, ship Thames, &c.
Bouvet's Sandy Isle [2]	0	23	0 S.	19	10	0 W.	Captain Bouvet, 1761.
Fernando Noronha [3] *The Pyramid*	3	54	40 S.	32	33	10 W.	The mean of lunar and chronometric observations, made in several East-India ships, &c.
The Roccas [4]	3	52	0 S.	33	29	0 W.	
Ascension [5] *Road on the North side*	7	55	30 S.	14	15	30 W.	
St. Matthew's Isle [6]	*	*	*	*	*	*	*Unknown to modern navigators.*
Anno Bon [7] *The Road*	1	25	0 S.	5	45	0 E.	Don Jos. Varela, &c. see page 3.
St. Helena [8] *James Town*	15	55	0 S.	5	36	30 W.	Captain James Horsburgh, Hydr. E. I. C., F. R. S. &c.

ETHIOPIC AND SOUTHERN OCEANS, CONTINUED.

	LATITUDE.				LONGITUDE.				AUTHORITIES.
	°	′	″		°	′	″		
Bank of Antonio Viana [9] *about*	17	30	0	S.	8	15	0	W.	Manoel Pimentel, about 1700.
Trinidad [10] *S.E. point*	20	31	45	—	29	19	0	—	Capt. Matt. Flinders, R.N. 1801, &c.
Martin Vas' Rocks [11] *The greatest*	20	28	30	—	28	50	30	—	Mean of different observations.
Rock seen in 1792 [12]	27	15	0	—	37	0	0	—	*Unknown.* See Note 12.
Columbus, or Saxemburg Island [13] *about*	30	18	0	—	28	20	0	—	Mr. Long, in the Columbus, 1800.
Grant's Breakers [14] *about*	31	33	0	—	11	30	0	—	Captain Jas. Grant, R.N. 1801.
Tristan da Cunha [15] *The Cascade*	37	6	0	—	12	3	0	—	Capt. P. Heywood, H.M. ship Nereus, 1811.
Gough's Island [16]	40	19	0	—	9	45	0	—	
Kattendyk's Droogte [17]	33	0	0	—	4	45	0	E.	The old Dutch Charts.
Lennon's Reef [18]	37	31	0	—	4	42	0	W.	Capt. Lennon, of the Hibernia, 1817.
Telemaque Rock [19]	38	12	0	—	22	0	0	E.	Captain Wilkinson, ship United States, 1818.
Isla Grande [20] *perhaps about*	43	*	*	—	30	*	*	—	*Unknown to modern navigators.*
Circumcision Land [21] *middle*	54	16	0	—	6	14	0	E.	Capt. Lindsay, Swan brig, 1808.
FALKLAND'S ISLANDS [22]									
Eddystone, or Concha I.	51	15	45	—	58	37	0	W.	Observations of the Spanish officers, compared with Lieut. Edgar's survey of the Western Island, and another English chart. From these we deduce the easternmost point of the islands as in about 57° 20′ W.
Port Egmont	51	24	0	—	59	56	0	—	
Western Kay	51	5	0	—	61	30	0	—	
New, or St. Philip's Island *(middle)*	51	39	30	—	61	25	0	—	
Cape Percival, W. Pt. of Beaver I.	51	46	0	—	61	28	0	—	
Beauchene's Isle	52	43	30	—	58	46	0	—	
Berkeley Sound [23] *Entr.*	51	32	30	—	57	25	0	—	
L'Aigle Shoal [24]	51	51	0	—	64	30	0	—	Captain R. Poole, ship L'Aigle, 1817.
Isles of Aurora [25]									
Northern Isle *about*	52	42	0	—	48	7	0	—	Spanish chart. See the Note.
Southern Isle *about*	53	25	0	—	47	56	0	—	
SOUTHERN GEORGIA [26]									
Cape North	54	4	45	—	38	15	0	—	Capt. Cook's second voyage, January, 1775.
Cooper's Island	54	57	0	—	36	4	20	—	
Cape George	54	17	0	—	36	32	30	—	
Clerke's Rocks	55	5	30	—	34	42	0	—	
SANDWICH LAND [27]									
Candlemas Isles	57	10	0	—	27	13	0	—	Capt. Cook's second voyage, January and February, 1775.
Cape Montague	58	33	0	—	26	46	0	—	
Southern Thulé	59	34	0	—	27	45	0	—	
SOUTH-SHETLAND [28]									
Smith's Cape	62	52	0	—	63	45	0	—	A public communication made by Captain Walker, of the ship John, of London, 1821; with additions.
Start Point	62	42	0	—	61	28	0	—	
Cape Sherriff	62	26	0	—	60	54	0	—	
Desolation Island	62	27	0	—	60	35	0	—	
Falcon Island	62	18	0	—	59	56	0	—	
Ridley's Island	61	55	0	—	58	12	0	—	

ETHIOPIC AND SOUTHERN OCEANS, CONTINUED.

	LATITUDE.				LONGITUDE.				AUTHORITIES.
	°	′	″		°	′	″		
North-Foreland	62	1	0	S.	57	44	0	W.	A public communication made by Captain Walker, of the ship John, of London, 1821; with additions.
Penguin Island, *S. end*	62	16	0	—	58	6	0	—	
Martin's Head	62	12	0	—	58	20	0	—	
Eastern Range.									
O'Brien's Island	61	32	0	—	56	12	0	—	
Seal Island and Reef	61	1	0	—	55	33	0	—	
Cape Valentine	61	3	0	—	54	48	0	—	
Cornwallis Island	61	0	0	—	54	36	0	—	
Lloyd's Promontory	61	2	0	—	54	10	0	—	
Cape Bowles	61	19	0	—	54	10	0	—	
Southern Range.									
Cape Bridgman	63	0	0	—	56	30	0	—	
Hope Island	63	5	0	—	57	4	0	—	
Trinity Land, *North pt.*	63	20	0	—	60	15	0	—	
Tower Island	63	30	0	—	60	30	0	—	

NOTES, WITH DESCRIPTIONS.

1. PENEDO DE S. PEDRO, otherwise called ST. PAUL'S.—We shall here repeat the description given in our '*Memoir on the Atlantic Ocean*,' for the use of those who may not be in possession of that work.

"This isle is composed of an assemblage of steep rocks, without verdure, covered with birds' dung, and having no place fit for anchoring, or convenient for landing. It appears, at the distance of five or six leagues, like several distinct rocks. The appearance annexed was lately communicated by the intelligent master of a merchant-ship.

"The rocks change materially in their appearance, according to their bearing. Mr. Alex. Coffin, of the American ship Diana, took two appearances of them in 1795, and mistakingly presumed, from their appearance, that they formed separate islands. The Tellicherry, East-Indiaman, passed in sight, in 1802, and found that the appearance, between N. 30° W. and N. 37° W. 6 or 7 miles distant, was that of a heap of rugged rocks, with low gaps between some of them: the northernmost, a small pyramidal rock, rather lower than the rest. The whole appeared to be rocks, about the height of a ship's mast from the sea. They afford no water.

"From observations made in the Thames, in 1798, compared with those made in five other ships, it is inferred that the isle is situated in latitude 0° 55′ N., and longitude 29° 15′. This longitude agrees with the lunar observations of the Thames, which varied only one minute from the result of those made in the Union, 1800, and five minutes from that of the Tellicherry, in 1802, the latter being to the west.

"Captain Williams has said, "I should suppose a ship might be on shore in the night, before she would be able to see the island, unless the noise of the surf were loud enough to warn the navigator of his danger." The true longitude may, perhaps, be rather to the eastward, than to the westward, of the situation assigned in the Table.

2. BOUVET'S

2. BOUVET's SANDY ISLE, &c.—Our Book on the Atlantic Ocean, above mentioned, describes all the known dangers existing in that sea, to the northward of the Line, and renders a farther detail unnecessary here: but, as there is a suspicion of certain shoals to the southward of the Line, as well about the tracks navigators follow in their course to Brasil, as about those they injudiciously keep in their return from India, take here what the Journals relate on this subject, on the authority of M. D'Après:

"On the 5th of February, 1754, the people on board the ship *Le Silhouette*, commanded by *M. Pintault*, felt a shock, or violent agitation, as if the vessel had touched upon a shoal: it was then about 5 *p. m.*, and from the latitude taken by that very day's observation, this dangerous spot should be twenty minutes to the southward of the Line, in about 20° 50′ West longitude, according to their reckoning, which they traced upon the French chart, from the road of Praya, in the Isle of St. Iago.

"On the 13th of April, 1758, the frigate *La Fidele*, *M. Le Houx*, commander, felt also the like shocks in 20′ South latitude, and 18° 0′ West longitude.

"On the 3d of May, 1761, *Le Vaillant*, Captain *Bouvet*, about 1 *p. m.*, saw a *small sandy island*, which bore N. by E. The latitude by the reckoning at noon was about 23′ South, and their longitude, reckoned from the sight of Ferro Island, which they made on the 8th of April, was about 19° 10′ West.

"On the 17th of October, 1747, the ship *Le Prince*, Captain *Beaubriant*, in its passage to India, felt one or two shocks, as if it had struck upon a shelf. She was at that time in latitude 1° 35′ South, and about 17° 50′ West longitude, reckoned from the sight they had of the Isle of Brava."

Whether these dangers exist or not, it would have been improper to have omitted this notice, unless the non-existence had been positively ascertained. More likely, perhaps, to exist may be a shoal in between two and three degrees of Southern latitude, indicated as follows, by the voyage of Captain *Krusenstern*:

On the 19th of May, 1806, at five in the evening, "we saw, in lat. 2° 43′ S. and long. 20° 35′ W., in the direction of N. N. W., and at the distance of about twelve or fifteen miles, a singular phenomenon; but which, owing to the lateness of the day, we were unable to examine sufficiently close to ascertain the nature of it. A cloud of smoke arose to about the height of a ship's mast; disappeared suddenly; then arose again, and vanished entirely. It could not be a water-spout, nor a ship on fire, as some persons on board conceived, for the smoke rose much too high; and Dr. Horner was of opinion that, if the whole was not an ocular deception, occasioned by a peculiar refraction of the rays of light, it had all the appearance of a volcanic eruption, and was, possibly, the fore-runner of an island."

We have not the least doubt of its being a volcanic eruption; and notice it as having probably left, at least, a shoal on the spot. Such may, also, have been the origin of other shoals, now no more.

Of a shoal to the NORTHWARD of the LINE, which we have not before noticed, the following description has been lately published:

"In latitude 5° 4′ 23″ N., and longitude 21° 25′ 40″ W., is a shoal, over which the Warley, E. I. S., passed on May 7, 1813. They had no time to sound, but supposed that there were about seven fathoms on it: the bottom was distinctly seen, and consisted of ridges of rocks, with sand between them. It is of small extent, not exceeding a quarter of a cable in length."

3. FERNANDO NORONHA.—In the Requisite Tables and Connaissance des Tems, the position of Fernando Noronha is given as 3° 56′ 20″ S. and 32° 38′ W. from Mr. Wales's chronometric observations, 9th June, 1775. Captain Cook reckoned it as 3° 53′ S. and 32° 24′ W. Lieut. Hewett, in 1817, gave it as 3° 54 S. and 32° 31′ W.; but Captain Mortimer, in 1805, made the longitude 32° 34′ 40″.

This island is remarkable by a high rocky peak on its north side, called the *Pyramid*, very barren and rugged; and by its S. W. point, named the *Hole in the Wall*, which is pierced through, and gives a free passage to the sea. The south side is distinguishable by a little rocky isle, that appears like a statue. The island is about seven miles long, and two, or two and a quarter, broad. It has been the rendezvous of vessels employed in the southern whale-fishery, &c. for procuring supplies of cattle, sheep, poultry, wood, &c.; but water is frequently scarce. East-India ships have, also, occasionally touched here, when they have been horsed to the westward by the currents.

On

On approaching the island, no soundings will be found until very close in. There is no danger but what may be seen, excepting a rocky spot off the south side, between two and three miles from shore, and a rock at about a quarter of a mile from the S. W. point.

The road or principal anchorage is on the north side of the island, being sheltered by the north-eastern land, and several islets in that direction. The anchorage has from ten to twelve fathoms, loose sandy ground, at about half a mile from the citadel-point, or nearest shore. It is unsafe to lie in with northerly or N.W. winds, which are said to prevail from December to April; in the other months the winds are mostly from the S.E., or easterly; sometimes at N.E.

The island is inhabited by Portuguese exiles, and has a strong garrison; all the little sandy bays and anchoring places being defended by forts.

Water may be obtained here; but, in the dry season, it is sometimes very scarce. In seasons of drought, which are not uncommon, the rivulets are dried up, and the vegetation parched. There are but few vegetables, but plenty of live-stock and fish, with an immense quantity of doves. The fresh water is obtained from a well near the governor's house, in the cove called WATER-BAY; but the cask must be rolled over some rocks, and swung off to the boat, over the impeding surf.

Wood is cut on the larger islet to the N.E., called WOODING or RAT ISLAND. This island is nearly surrounded by rocks, and there is a risk of staving the boat when taking off the wood, as it is heavy, and sinks if thrown into the water. Should the governor permit wood to be cut on the main island, it may be conveyed, without much danger, from the fine sandy bays to the westward of the road.

In 1805, Captain Mortimer found but a small supply of water, few vegetables, but plenty of live-stock and fish, and an immense quantity of doves.

From Tobacco-Point, or the south point of the island, a reef of rocks, even with the water, extends half a mile to the southward; and, to the S.E. by E., two and a half miles from the same point, is the centre of a rocky patch, on which the sea always breaks. When in a line with these rocks, the pyramid is shut in with the highest hill on the south side of the island. Between this reef and the shore, is a channel of from ten to fifteen fathoms.

The current here commonly sets strongly to the westward, for which due allowance must be made in rounding the islands on the N.E.

4. THE ROCCAS.—These are dangerous low kays, on which the Britannia, East-India ship, and King George, transport, deceived by the currents, were lost in 1805. The kays, or islets, are sandy, with shrubs upon them; they cannot be seen from the mast-head, in the clearest weather, at the distance of more than three leagues. At their N.E. end is a high rock, and the sea breaks exceedingly high all round them. The ship Glory, at two miles to the west of the reefs, found bottom at twenty-eight fathoms, coral-rock. The current here was found to set two and a half miles hourly to the westward. Rise and fall of tide six feet.

5. ASCENSION.—The Requisite Tables give longitude 14° 21′ 15″. The Abbé de la Caille and Connaissance des Tems, 13° 59′; but the run from St. Helena, in different ships, having chronometers, removes all doubt as to the situation of this island. See the note [8] on St. Helena, hereafter.

The following description of Ascension was given in the last edition of the '*Oriental Navigator.*'

The ISLAND of ASCENSION, 225 leagues to the N.W. of St. Helena, is about three leagues from north to south, and not more than two from east to west; it may be seen ten leagues off, in clear weather, and is evidently formed by a volcano: it is covered with a reddish earth, not unlike brick-dust, or burnt loam; in some places there is a yellow earth, like ochre; and in others, chiefly in the valleys, a fine black earth. The island is composed of several hills, 200 or 300 yards in height, except one in the S.E. part, which is about 800 yards high, and called the *Green Mountain:* its top is double, and rather peaked, but all the rest are nearly of a regular conic form, and covered with red earth. The earth, as well as a great part of the hills, is strewed with a prodigious quantity of rocks, full of holes, calcined stones very light, and pumice-stones. The rocks lying upon each other, in a very irregular way, and mostly on the declivity of the

hills, leave great chasms between them; and, as they have very little solidity, an observer runs some risk who ventures without caution upon them. The prospect of these hills, and, in general, of the whole island, is very rugged: when seen at a distance of seven or eight leagues, and bearing west, it appears as beneath, in clear weather.

About the middle of the island, and between the hills, there are several little plains, which are divided into small spaces, so remarkably distributed that you would take them for so many pieces of land cleared of stones, and separated from each other by long walls.

There are no streams in this island: at the foot of the Green-hill, which is an extinguished volcano, there is sometimes water in the hollows, but it evaporates in a few months.

The surface of the island appears totally naked and barren. "I have not seen there," says the Abbé de la Caille, "any signs of trees or shrubs. I have found four kinds of plants only, which are thinly scattered here and there. The first is a kind of purslane, of a very good sort. The next is a milk-thistle, whose stalk becomes pretty hard in drying. The third is a species of gramen, whose leaf is very narrow, long, and a little indented, like the shave-grass. The fourth, which grows only in the sands, near the seashore, is a kind of convolvolus." This shore is made of very hard black rocks, which do not appear to have been calcined, or of beaches, whose sand, of various colours, is visibly the pulverisation, more or less complete, of the shells.

There are a great number of wild goats, which are very lean, of rats and mice, and some few insects."

Ascension Island, without water and wood, has been frequented only on account of its turtles. "Of this article," says Captain Lesley, (February, 1775,) "the island furnishes the finest in the creation; the females, from, I suppose, hundreds of leagues round, come here to lay their eggs, on which employment they are taken at night; so that they are not only fat and large, but in the highest perfection for eating. Their weight, in general, is from four to seven hundred pounds. We took of them in four nights upwards of one hundred; the Prudent, the ship that was with us, took more; so that our squadron of four ships of the line had as much turtle as, if they live, will serve us a month for the ships' crew. They are, of all I ever tasted, the fattest and finest; all others I ever saw before bear no comparison with them. I must observe that the rats were very troublesome to our turtle-parties, eating their provisions, and killing the turtles after they were turned.

"It is said," continues the same gentleman, "no person ever could find water on this island, except just some unexhaled rain-water in the crevices of rocks, accessible only to the goats, and that it must be which kept those animals alive. But I am of opinion that were proper instruments taken to dig a sufficient depth, there must be water at the foot of the valleys; for surely all the water that falls from the clouds in rain and dews cannot be exhaled; some must be absorbed by the earth, and sunk to the bottom. Though I believe there is very little rain here, yet there are always clouds hanging over the high land, and the centre mountain (the Green mountain) is generally enveloped in one. The truth is, no person ever dug farther than a common spade or shovel would go; and, on finding no water eight or ten feet deep, gave up the point; but surely at twenty or thirty feet deep there must be water. Had I had time, I would have tried this; for my opinion is, where there is so large a piece of land, there must be water at some depth or other.

"But Ascension can never be inhabited by man, from want of soil; the whole island, both mountain and valley, being one entire cinder, just as if it were newly spit out of a volcano; so much the better, for a well alone is wanted, and settling it would be fatal to the poor turtle, which will, I hope, at least have this place left."

A ship bound to Ascension Island must sail down along the north side of it, keeping it close on-board, it being bold and steep-to, and continuing to keep it so when she comes to haul up for the road. You may sail within two cables' length, or less, of it, there

there being no danger till you bring Flagstaff-Hill on the middle of Sandy Bay. This hill stands by itself: it had formerly a cross upon it, but is now distinguished by a flagstaff; whence it is called Flagstaff Hill, or Constitution Hill.

Sandy Bay is about a quarter of a mile deep, and about three-quarters wide. The westernmost point is dangerous, on account of a reef of rocks, stretching from it about a mile from the shore, and on which the sea breaks in bad weather; therefore care must be taken not to go too near it.*

The anchoring-place, called English Road, is on the north-west side of the island, off Sandy Bay; a good mark for anchoring is, to bring Flagstaff-Hill on the middle of Sandy Bay, when it bears S.S.E. ½ E., and the extremes of the island from N.E. ¾ E. to S.W. ¼ W.; then you will be in ten fathoms water, and about half a mile off shore The bottom is sand and gravel, clear ground; and this is as good a berth as any in the road. The hold is good, and there is no danger whatever, as the wind always blows to seaward. There is a great surf upon the shore, and the landing is troublesome.

It must be remarked of the bays of Ascension, that where there is the most beautiful appearance of a fine white sand, when you land on it, and take up some of it, you will be surprised to find it appear like very fine gravel, but as light as dust.

We shall subjoin Captain Maxwell's account of this island, written in 1793.

"Ascension is an uninhabited island, about twenty miles in circumference; composed of porous rock, calcined earth, and pumice-stone: the surface, in general, powdered, as it were, with sulphur, and hot vitriolic fumes issuing from the mountains, destroying all vegetation; not a blade of grass to be seen, though there are many wild goats; these may possibly have reservoirs of water, and hardy plants, to glean on the windward side, where the destructive vapours cannot reach.

"The bay abounds with fish, particularly a small rock-cod, but they have all a black appearance; and, when dead, grow putrid remarkably soon; which should deter people from using them, as many have experienced their deleterious effects.

"Vessels bound to English Road should run down the north side of the island, and take Pelican Point, within two cables' length, being a steep rocky shore; then brace up to fetch in with the bay, which they may easily do, to anchoring-ground, the first stretch within a third of a mile of the beach, in 10 or 12 fathoms of water, fine sandy bottom; bringing the flag-staff on Constitution Hill to bear S.S.E.

"There is another bay under the south point, about two miles from Rat Corner, called French Road, and better frequented by turtle; but it lies very open to the sea, and is dangerous for boats, on account of its rocky beach, and heavy surf." This bay is on the north side of the S.W. point, and turtle may be found here when it is not to be met with in the other bays.

"Vessels calling at Ascension for turtle have often turned fifty in a night, of from three to five hundred weight each. They may be found in great abundance eight months out of the twelve, say June, July, August, and September, excepted, when the season is too cold: they are a wholesome nutritious food, and prove a very salutary refreshment to mariners on long voyages. If a few houses for the accommodation of the sick were erected on shore, until vessels are properly aired and fumigated, the turtle taken on board, &c. &c., they would be very useful, and a supply of water might be ob-

* There are some other detached rocks in the bay, on one of which the Egmont struck, as appears by her journal.

"At half-past twelve P.M. saw the Island of Ascension bearing W. by N. ½ N. distant nine or ten leagues. At seven ditto came-to with the small bower, in quarter less five fathoms, Flagstaff-Hill S.S.E., veered to half a cable. At ten A.M. the next day weighed, being too near in, and dropped into twelve fathoms water. At six P.M., standing along-shore, had the misfortune to strike on a sunken rock, at the distance of about two cables' length from the shore. We continued striking without going a-head, though all our sails were set and full, for eight or ten minutes; at last she came-to against the helm, upon which we braced all a-back, and she went off stern-foremost. As soon as afloat she began to make water, and now makes twelve or thirteen inches an hour.

"In the morning I sent my chief officer to sound upon the rock, and take its bearings, &c. He brought me word that it is a small spiral rock; on the shoalest part he had quarter less 3 fathoms, on one side of the boat, and 13 fathoms on the other; toward the head and stern of the boat, 4½ and 5 fathoms; she then laying along-shore. From the rock to the shore, almost close-to, no less than 13 fathoms, white sand; close to the outside of the rock 13 fathoms, and in a very little way, no ground; the space it occupies is not above five or six feet any way. When on the rock, the flag-staff on the hill bore S.W. ½ S., distance off shore about a cable's length and a half."

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tained, if cisterns were constructed for that purpose, which might be done at a very moderate expense."

During the confinement of the late emperor Napoleon on the Island of St. Helena, the British government deemed it requisite to take possession of Ascension as a military station, and a sloop's crew was maintained upon it, who contrived to form a few small gardens; since which, in 1821, Major John Campbell, with two lieutenants, and a small party of marines, proceeded in the Heron brig, Captain Hanmer, to garrison the island for three years.

By the latest accounts, dated August, 1821, which announced the arrival of the new governor, we have been informed that Ascension now abounds with Guinea fowl, so much so that a good day's shooting can be had; the horned cattle were but few; goats in considerable numbers. Six days supply of water could be collected, but with great trouble. Vegetation was thriving fast. The late garrison consisted of fifty men.

In April, 1819, the Northampton, E. I. S., Captain Tebbut, anchored in the road, in 19 fathoms. Extent of the land E.N.E. to S.S.W.; Green Mountain E.S.E.; distance off shore three-quarters of a mile: but the best anchorage is in Turtle Cove, in 12 fathoms, Flag-staff Hill S.E. ½ E. Rat Corner S.S.W., distance about one mile from the shore.

6. ST. MATTHEW'S ISLE.—San Mattheo, or St. Matthew's, was formerly described as an island discovered by the Portuguese, in the year 1516, by whom it was afterwards planted; and it is said that vessels frequently stopped here some days to take in refreshments. Guthrie says, edition of 1783, the Portuguese "planted and kept possession of it for some time, but afterwards deserted it. This island now remains uninhabited, having little to invite other nations to settle there, except a small lake of fresh water."

We think it not improbable that this island, like the *Land of Bus*, in the Northern Ocean, may have entirely disappeared. Governor Dalzel sought for it without success in 1799 and 1802, and it appears almost certain, from his routes, in between one and two degrees of south latitude, longitude 3 to 10° W., that it does not exist within this space. "Mr. Dalzel made many enquiries among the Portuguese about this island, without meeting with any person who pretended to have seen it, except one who gave him a rough draught of it, which was laughed at by the other Brasilians, who said it must have been a cloud." In about 8° W. many birds were seen.

The island has since been sought for by the late Commodore Sir James Yeo; and, in June, 1819, the Julia returned from a cruise, for this purpose, equally without success. If the island exists at all, it must be considerably to the westward of longitude 10°.

7. ANNO BON.—This island, with St. Thomas's, &c., have been already noticed in the preceding section. See page 6.

8. ST. HELENA.—Dr. Maskelyne, in 1761, ascertained the latitude of James's Fort, which has been confirmed. By eclipses of the first satellite of Jupiter, he also attempted to settle the longitude, which he gave as 5° 49′. It has since been stated, in the Requisite Tables, 5° 43′ 30″. But the mean of thirty-two sets of distances, taken by Captain Horsburgh, gives only 5° 36′ 30″, as shown in the Table.

The altitudes of the most remarkable eminences of St. Helena were ascertained by Major Rennell. These are, Diana's Peak, 2692 feet above the level of the sea; Cuckold's Point, 2672; Halley's Mount, 2467; Flagstaff, 2272; Barn, 2215; Longwood-House, 1762.

Cuckold's Point, Halley's Mount, and Diana's Peak, form part of the same ridge, and are frequently enveloped in clouds. The Alarm-house, overhanging the sea, is 1960 feet in height, and the High Knoll, centrically situated, 1903 feet. The greatest extent of the island, E.N.E. and W.S.W., is about ten miles, by six in breadth. The surface contains nearly 30,000 acres of pasturage and garden-grounds. The island is supposed to be of volcanic origin, as volcanic productions have been found in every part. Of its basis, the great component part is rock.

St. Helena lies within the limit of the south-east perennial or trade-wind; and its roadsted is on the north-west or leeward side of the island. The voyage from England is usually performed in nine or ten weeks.

The island was discovered by the Portuguese admiral Joaõ da Nova Galego, on St. Helen's day, 1502. In 1513, it became the voluntary abode of Fernandez Lopez, a Portuguese nobleman, on returning in disgrace from India; who, being left here, with a few

a few servants and some useful animals, assiduously cultivated its resources. In a few years he was recalled to his country, and imparted the advantages of St. Helena to the East-India trade. Thomas Cavendish, in his famous cruise around the globe, visited the island in 1588, and found, as he has said, "divers handsome buildings and houses, a church tiled and whitened, very fair, a cassey made up with stones, reaching into a valley by the sea-side. This valley he describes as the "fairest and largest low spot in all the island, and is exceedingly sweet and pleasant, and planted in every place either with fruit or with herbs. There are fig-trees, which bear fruit continually, and very plentifully; for, on every tree, you may see blossoms, green figs, and ripe figs, all at once; and it is so all the year long. There is, also, a great store of lemon-trees, orange-trees, pomegranate-trees, and date-trees, which bear fruits as the fig-trees do, and are planted carefully and very artificially, with pleasant walks under and between them. In every void place is planted parsley, sorrel, basil, fennel, anniseed, mustard-seed, radishes, and many very good herbs. The fresh-water brook runneth through divers places of this orchard, and may be made to water any tree in the valley." The English ship Bonaventure, Captain James Lancaster, was here in 1593, having been driven back, after leaving the Cape, and remained about three weeks.

For some time after the departure of Lopez, the island does not appear to have been regularly inhabited; but, in 1640, the Dutch attempted to establish a settlement here, which they relinquished, in 1651, to the English East-India Company; and to this company the entire possession and sovereignty of the island were granted by charter of Charles II., 3d of April, 1661. At the close of 1672, the Dutch, by the treachery of one of the inhabitants, again obtained possession; but it was soon recaptured by three of the king's ships, under the command of Captain Richard Munden. The island thus relapsed, by conquest, to the crown, but was re-granted, by the king, to the East-India Company, in whom the property and sovereignty have since been vested. The second charter, dated 16th of December, 1673, constitutes the Governor and Company the true and absolute Lords and Proprietors of the island, with full legislative power, but, as near as may be, agreeable to the laws of England, and reserving also the faith and allegiance of subjects to the crown, and the rights of the natives, to all intents and purposes, as if they had been abiding and born within the realm.

The island, when first descried from the northward, appears like one vast rock, or castle, surrounded by the ocean; the coasts being generally high, rugged, and precipitous. On advancing, the prospect gradually improves; the mountains appear in varied hues, and then assume the verdant teint which distinguishes their summits. The rocky coasts will now present a striking contrast to the green hills and valleys of the interior. The town will next be seen, seated in a narrow valley between the mountains, with the batteries, the church, and the white houses, interspersed with trees; constituting, altogether, a picturesque and animating scene.

An elevated chain or ridge, extending nearly East and West, divides the island into two unequal parts; numerous ridges and valleys branch from it in various directions. Diana's Peak, the summit of the chain, towards the East, is the highest point of the island. This peak commands a magnificent prospect of all the island, with its ridges and hollows to the sea, its mountains, houses, and plantations; and, within the area of its horizon, the approaching and departing shipping to the distance of nearly sixty miles, if the weather be clear.

The only landing-places are at Rupert's and James' or Chapel Valleys. In Rupert's Valley, towards the sea, stands a strong battery, well mounted with heavy cannon; but the valley is not habitable, because it has no water. In the entrance of James' Valley stands James' Town, which is defended by a very fine line of 32-pounders, and flanked by a high inaccessible battery upon the rocks called Munden's, close under which all ships must pass that come to an anchor before the town. The principal street consists of neat and well-constructed houses, and divides into two others; one on the East, leading to the country in that direction; and the other to the upper part of the valley, where the barracks, the new garden, and the hospital, are situated. In the western street are a number of shops, stored with European and Indian goods; but the houses here are very inferior to those in the lower street, where the principal inhabitants reside.

The water that supplies the garrison and shipping is conveyed by leaden pipes from a spring in the valley, distant more than a mile from the sea. These pipes lead the water to the jetty, where there are two cranes for the use of boats, in loading with goods or water-casks, or for receiving stores from the shipping.

On the right or western side, the valley is entered from the interior by the steep promon-

promontory called Ladder Hill; the zigzag road upon which, 9 feet in breadth, has a wall on the side next to the precipice, and is very easy of ascent. On the left of the valley, the carriage-road, called Side Path, is the avenue to the interior of the island eastward. This road, which has been made with great labour and difficulty, goes with an easy ascent transversely to the level above, whence the prospect is striking and delightful: from a sterile brown and barren rock, you view the most lively verdure; beautiful lawns, with sheep and cattle feeding in different places, and interspersed with small houses, which have, generally, a large inclosure laid into gardens. This view is terminated by a prospect of the sea; or by high rocks, apparently heaped one upon another to a stupendous height. The plain, called Long Wood, towards the eastern side of the island, contains the greatest quantity of level ground. A considerable space on it is planted with trees, but it is deficient in water. This plain, 1762 feet high, forms another point of view. The scenery is here enlivened by a small winding stream, which, falling from the heights into the valley, makes a delightful cascade. Upon the edges of the stream water-cresses are often plentiful.

A rich mould, from six to twelve inches deep, forms, over the rock, the general soil of the country, and nourishes a great variety of plants. The clefts and inequalities produce trees, of various species; and, amongst these, the tallow-tree is said to be indigenous: several of the latter grow on the hills, and there is a copse of them at the S.W. part of the island. The lands are devoted chiefly to pasturage, and the gardens to culinary roots and vegetables. Utility takes precedence of taste; and, although the sugar-cane, cotton-tree, indigo, &c., with the most beautiful plants, have been introduced, the great purpose of rearing cattle and useful herbs has always been primarily and closely regarded. The country was found, in the first instance, covered with wood. Its peculiar productions have since given place to more useful ones. The wire-grass of India, samphire, and a wild celery, abounded here; the wire-grass is now found principally in the low lands; the English vernal grass upon the heights. The English oak has also appeared; it grows remarkably quick, but has never attained perfection. Figs, oranges, and pines, are found in the valley by the shore, and but few English fruits have failed. The apple-trees are very abundant. In a valley, near the S.E. part of the island, having a run of water through it, which issues from the eastern side of Diana's Peak, there is an orchard of apple-trees, which flourishes in a remarkable manner, the branches being loaded to the ground with fruit; while, on the same tree, the blossom is seen, and the apple in all its different stages, from its first formation until it is ripe and falling to the ground. The soil of this orchard is a deep black loam. On one side of the valley it is ten or twelve feet deep, sloping down with a considerable declivity; and might be rendered very valuable, if properly cultivated. The tropical fruits ripen best in the valleys near the sea; peaches, guavas, grapes, and figs, in different parts of the island. The hopes of the farmer have been frequently disappointed in the cultivation of grain; sometimes from drought; at others, from the depredation of rats, which have, at times, been so numerous as to destroy entire crops. Potatoes, yams, cabbages, peas, beans, &c. are generally plentiful.

Cattle, of English origin, are reared for the use of the Company's ships, and supplied to them very sparingly when a fleet arrives; the quantity reared not being adequate to the demand. The sheep and beasts are, in no respect, degenerated by change of climate. In some situations, rabbits abound; pheasants and partridges are numerous, and the gardens are enlivened by the notes of the Canary bird. Fish, to the extent of seventy species, have been found on the coast: among these the mackarel is peculiarly abundant. The shell-fish include turtle, oysters, and two species of lobster. Sea-fowl deposit immense quantities of eggs around the island, which are collected in the fall of the year, and constitute an agreeable article of food.

Of the climate under which such products are found, but little need be said. The thermometer is seldom higher than 80°, and the summer not so hot as in England. The winter is also milder, commonly ranging between 55 and 56 degrees, a temperature in which the vegetation of leaves proceeds with more equality, perhaps, than any other. Thunder is seldom heard; but, with a sultry atmosphere, lightning is not unfrequently seen. There have been seasons of drought, wherein the cattle have perished from want of water; but, in general, rain is experienced in all seasons, particularly in July, August, and September, or the summer-months of the northern hemisphere. Sir Joseph Banks has said, that "every month has its share: there are more rainy days in February, however, than any other period; and cloudy days throughout the year exceed

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in number, almost two to one, those in which the rays of the sun fall upon the earth without interruption, and scorch the vegetation."

On the hills and high grounds the air is always cool and pleasant; fog-clouds frequently cover the peaks; or, being driven from the sea by the wind, strike against them, producing gentle showers, which quicken the vegetation, and cool the atmosphere on the heights. Hence the luxuriance of the pastures increases in proportion to the distance and height from the sea; and, upon the summits of the hills, the oxen may be seen up to their knees in grass.

During the time a ship or fleet remain in the roads, the passengers are entertained as boarders, in private houses, but at a very expensive rate: for which a good table, with wines, and comfortable lodgings, are generally provided.

The arrival of a fleet brings all the people of the town from their country avocations: this being the season of traffic. Of a large fleet, the crews and passengers may nearly equal in number the population of the island. Upwards of 150 ships annually, upon an average, come to an anchor here, which, of course, produce great fluctuations in the price of provisions; and there is, sometimes, a temporary scarcity. The salted meat of England and the rice of Bengal supply the deficiency. These articles, being cheaper than fresh provisions, constitute the principal food of the garrison and inhabitants. Salted meat is issued from the Company's stores under prime cost, and other articles at only 10 per cent. advance, including freight. Beef is sold at 6½*d.* per lb. *alive*, having been raised to that price since 1808; and, as it is principally destined for the King's or the Company's shipping, no person may kill even his own ox without permission of the governor.

The population, exclusive of the government establishment, civil and military, is about 2000, of whom about 1300 are slaves, and 300 free blacks. No stranger is permitted to remain on the island without the special consent of the "Lords Proprietors," the East-India Company.

The annexed view of St. Helena was taken by Captain Charles Lesley, when the island bore west, seven leagues distant.

All ships, in approaching the island, bring-to to windward, and send their barge ashore to the castle, with an officer to report their nation and business, and obtain the governor's permission to anchor there. Without this, all the batteries would fire upon them in their approach, and it would be very difficult, even for a number of men-of-war, to force a passage.

As James Town is situated in the most leeward part of the island, ships, in coming in, are obliged to keep close under the land, by which means their decks are entirely exposed to the battery above. Another disadvantage is, that of eddy-winds, calms, and violent gusts, which lay them almost on their broadsides; so that the natural strength of St. Helena is almost sufficient for her safety.

A ship, bound to this island, must run down along the north side of it, within a cable's length of Sugar-Loaf Point, and afterwards keep the shore close on board, and likewise within a cable's length: there is no danger, as it is bold and steep-to. On the west part of Sugar-Loaf Point stands a small fort; and a little to the southward of it is Rupert's Valley: the next point, to the southward of the valley, is Munden Point, which, like all the rest, must be kept close on board; you then come to James' Valley, off which is the place of anchoring.

You may anchor in from 8 to 15 fathoms; the flag-staff at the fort bearing from S.S.E. to S.E. by S.; Sugar-Loaf Point N.E. by E.; and Horse-Pasture Point S. by W. ½ W., distance off-shore about half a mile: with these bearings you have a good and convenient berth for watering. This bank runs out to the westward, off the fort, about a mile and a half, and deepens gradually from 7 fathoms near the shore, to 30 and 35 for about a mile and a quarter, when it deepens suddenly to 60 fathoms, and then no soundings. The bottom in the road is coarse sand and gravel. You will find

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no soundings until you come abreast of Rupert's Valley, where there are 18 or 20 fathoms.

One watering-place is just without James' Fort, where there is a crane for striking the casks into the boats; the other is at Lemon Valley, where there is the best water, and you may fill the casks in your boats with a hose.

9. BANK of ANTONIO VIANA.—The only notice that we possess of this shoal is the following, from the Sailing Directions for the Coast of Africa. "Between the seventeenth and eighteenth degrees of latitude, seventy or eighty leagues W.S.W. from Cape Negro, (according to *Pimentel*,) are the shoal and breakers of *Antonio Casado de Viana*: these are very dangerous to ships coming from Brasil to Benguela and Angola; one of the rocks only appearing above water. The shoal is very steep, and cannot be discerned in the day-time till you are near, on account of the prodigious foaming of the sea, whose roaring, being heard at a great distance, may, during the night, give you notice of the danger."

10. TRINIDAD.—The latitude is given from the mean of different observations. Of this island Captain Flinders has said, "Mons. de la Pérouse, who sent a boat on shore to Trinidad, lays down the latitude of the S.E. Point at 20° 31′ S., and longitude, from lunar observations, 28° 37′ west of Greenwich. The latitude appeared to agree with our observations; but in the longitude there is some difference. According to Earnshaw's two time-keepers, No. 465 and 543, which kept better rates than the remaining four, the longitude of the *Nine-Pin* is 29° 25′ 30″ W.; which, being reduced to the S.E. Point, will place it in 29° 23′, or 46′ west of the French navigator. The longitude, in Captain D'Auvergne's Plan of Trinidad, constructed 1782, is 29° 55′, or 32′ still farther west. From two sets of distances of the star *Altair* to the west, and two of *Aldebaran* east, of the moon, I made the longitude of the S.E. Point to be 29° 19′ west; the difference from the time-keepers, which I consider to have given the best longitude, being no more than four minutes."

Captain Horsburgh has given the situation of the centre of Trinidad as 20° 32′ 30″ S. and 29° 9′ 30″ W., being the mean result of observations taken in ten East-India ships. This has induced us to prefer the lunar to the chronometric observations of Captain Flinders.

In approaching Trinidad from the eastward, when running on its parallel, you make the three islets or rocks of *Martin Vaz*, which may be seen at the distance of eight or nine leagues from the ship's deck. These rocks are very remarkable, and cannot be mistaken; they lie North and South from each other, the distance from the outer rock being about three miles. The centre rock is very high, with tufts of withered grass scattered over its surface; the other two are entirely barren; there is a passage between the southernmost and centre rocks. The northernmost almost join. In clear weather Trinidad is distinctly seen from the rocks of Martin Vaz, and may be descried sixteen leagues off.

This island is about six miles in circumference, the land very unequal, and at best no more than a cluster of rocks, with some shrubs in the valleys. The northernmost side is quite barren, but to the southward all the interstices of the rocks are filled with evergreens of several kinds: there is, also, a quantity of sea-fowl and rock-fish, and many wild hogs.* The generality of the wood is very small, though there are trees of eighteen inches diameter towards the extreme heights. Trinidad is surrounded by sharp rugged coral rocks, with an almost continual surge breaking on every part, which renders the landing often precarious, and watering frequently impracticable; nor is there a possibility of rendering either certain, for the surf is often incredibly great, and has been seen during a gale at S.W. to break over a bluff which is two hundred feet high.

The island is supplied with very good water from two small streams down the east and south-west sides of it, besides a small issue from the rock, which forms the south-west extreme; not one of them will fill a tube of six inches diameter, and there is a doubt

* Captain Edmund Halley, of the Paramore Pink, afterwards Dr. Halley, Astronomer Royal, landed on this island April 17th, 1700, and put on it some goats and hogs for breed, as also a pair of Guinea hens, which he carried from St. Helena. "I took (says his journal) possession of the island in his Majesty's name, as knowing it to be granted by the King's Letters Patent, leaving the Union Flag flying." When the English went to Trinidad, in 1781, in order to ascertain whether a settlement was practicable there, they did not find it, after a survey of two months, to answer their expectations. Commodore Johnstone planted various roots on the different heights, but they all perished in a short time, from want of water.

whether

whether these runs are temporary or perennial, though they always produce a small quantity of water sufficient to preserve the existence of a few wretched inhabitants. Lieutenant Thomas Hamilton, from whose account this detail of Trinidad is chiefly extracted, speaking of the anchorage, says, that they anchored off the west side of the island, at a mile from the shore, to be able to weather it on any tack, should the wind happen to blow on, "being directed," continues that gentleman, "to do so by Captain D'Auvergne, who informed us of the wreck of the Rattlesnake, and the miraculous escape of the Jupiter and Mercury." They prudently avoided the common anchorage, which is about a musket-shot from shore, in 18 or 20 fathoms water. On that side there stands a stupendous arch, or hole in the rock, like that at Fernando Noronha, and two very remarkable rocks, one called the Monument, and the other the Sugar-Loaf. The monument is 850 feet high, of a cylindrical form, and almost detached from the island, with large trees growing on its top. This had been named the Nine-pin, in the year 1700, by Dr. Halley. The Sugar-Loaf, at the south-east end, is 1160 feet high, of a conical form, with trees likewise on its summit, and, whenever it rains hard, a cascade of above 700 feet, whose water becomes of great use, make there a beautiful appearance. The arch is a natural passage made by the sea through a high bluff about 800 feet high; it is 40 feet in breadth, nearly 50 feet in height, and 420 in length, the depth of water above three fathoms. When the sea is moderate, you see through this arch into the only bay in the island, and have a view of a distant rock covered with trees, which renders the prospect extremely picturesque.

The above detail of Trinidad, and chiefly of its anchorage, given in 1781, is very different from a descriptive note which Captain Charles Lesley, of the Oxford man-of-war, introduced in his instructive journal of 1773 and 1774. This states, "When the rocks of Martin Vaz (which are E. by S. southerly, distant seven leagues from the island) bear E.S.E. and the easternmost point of the island N.E. by E., the bay begins to open, wherein, at the upper end, you will see a hill like a sugar-loaf, and a mile from the shore you will have ground at 46 fathoms, coarse sand: on the mouth of the bay you have 35 fathoms, and by the time you get this length, or very soon afterwards, you will perceive three bays, one right a-head, called the Northernmost, or Middle Bay, and one on either hand, called the Easternmost and Westernmost Bays. The east is by far the best, the west being full of rocks, and the northernmost having shoal water, and being open quite to the sea. The east bay is likewise distinguished by a church, with a large cross upon it, which stands at the upper end of it; you may anchor in six fathoms, the church bearing W.S.W., and a point like the South Foreland bearing S.W. by W., and thus situated you may moor your ship with only one cable on shore.

"The watering-place is near the church, and you may lay your long-boat under, and fill with a spout or hose. The island lies in the direct track of the outward-bound East-India ships, and they always endeavour to go to the eastward of it; but, if the S.E. trade does not prove very favourable, they either fall in with it, or go to the westward."

At present there is supposed to be no vestige of a church, as described by Captain Lesley: and it has been remarked that it would be very imprudent for any ship to anchor in the east bay, which he has described, with the S.E. trade-wind; or, indeed, without a fixed northerly wind.

The uncertainty of the S.E. trade, mentioned by Captain Lesley, is confirmed by Lieutenant Hamilton, who says, "We first saw it (the island) on the 5th of June, on our passage to the Cape of Good-Hope; we had then variable winds and calms; and, on making it the second time, the 8th of November, we had exactly the same winds and weather, accompanied by a very heavy squall of wind from the westward. During our stay there, above two months, the prevailing wind was N.N.E.: hence I conclude the S.E. trade-wind is not to be depended on, although the island is so far within the tropic of Capricorn."

ASCENSAO.—An island, distinguished by this name, has formerly been described, and was said to lie at the distance of about 100 leagues to the westward of the Isle of Trinidad, and 120 leagues from the coast of Brasil. Doubts have long since been entertained as to its existence, and we have the best reasons for considering them as verified. La Perouse, in 1785, sought for it without success as far as the longitude of seven degrees west of Trinidad; and M. Krusenstern, in 1803, prosecuted the search so much farther to the westward, that its non-existence within 37° W. appears certain. Add to this, that the governor of St. Catherine's informed M. Perouse, that the governor-general of Brasil had despatched a vessel in the preceding year to survey the island

but that it could not be found, and it had, consequently, been expunged from the charts.

11. MARTIN VAS' ROCKS.—The latitude is given from seven meridian altitudes of the sun. The longitude, by the mean of observations in nine different ships, as given by Captain Horsburgh, appeared to be 28° 41′. We have deduced it from Trinidad, as shown in the preceding Note.

These rocks are high and barren. The central one is the largest, and it may be seen, from a ship's deck, at the distance of ten leagues. When bearing south, the rocks seem nearly in a line. The northern and central rocks are near each other, but between the central and southern rocks is a good channel. Here the Chesterfield, in 1800, observed the latitude, 20° 28′. When through, she hove-to, in 12 fathoms, with the largest rock E.N.E. about a mile, the bottom then visible, and caught plenty of rock-cod and other fish: the boat, in sounding, found the depth decrease gradually, over a rocky bottom, to a fathom and a half close to the largest rock.

The north rock is small, and most westerly: all are steep and inaccessible; the distance between the extremes about three miles; that to Trinidad about 8½ leagues.

12. ROCK SEEN IN 1792.—A shoal is thus exhibited in a chart published in London, 1808: but we presume that it is one given by Pimentel, with the date of 1692, and question its existence.

13. COLUMBUS, or SAXEMBURG ISLAND.—An island, by him named *Saxemburg*, is said to have been first seen by J. L. Lindeman, of Monnikendam, 23d of August, 1670, who has given a view of it, as taken at *sun-set of that day*, when bearing N.E. by N., distant about seven leagues. He represents it as having a remarkable narrow peak, like a column, near the middle of the island; and, from his account, it was laid down in the charts at about 30° 45′ S. and 19½° W. Captain Galloway, in the American ship Fanny, outward-bound to China, in 1804, supposed that he saw it *at a great distance*. He states that it was four hours in sight, from the mast-head, without changing its appearance; which exhibited a peaked hill in the centre, and a bluff at one of the extremities; situated in the parallel above mentioned, but *two degrees more to the eastward*.

Captain Flinders, in the year 1801, unsuccessfully sought for this island, in the parallel assigned. From longitude 26°, he proceeded eastward to 20° 28′, and then E.S.E. nearly over the situation described in the charts. His precautions were such as to leave no doubt of the non-existence of the island within the limits here mentioned. Captain Horsburgh also states that he had, at two different times, endeavoured to gain a sight of this doubtful island, by crossing the longitude 19° W. at one time, a few miles to the southward of its latitude in the charts, and at another time a little more northerly than the same. This gentleman is of opinion that, if an island, moderately elevated, had any existence near the place assigned to Saxemberg, it certainly would have been frequently seen; and he adds that clouds, exactly like land, sometimes remain stationary at the horizon, for a great length of time, in this part of the ocean, and may be mistaken for distant islands.

On the 17th of January, 1821, the ship Cornwallis, Captain Rowland Bourke, passed over the assigned position of Saxemburg, and ascertained that no island could exist in that situation; a good look-out being kept.

But Captain Flinders says, "At the Cape of Good-Hope, in 1810, his Excellency the Earl of Caledon favoured me with the following extract from the log-book of the sloop Columbus,—Long, Master; returning to the Cape from the Coast of Brasil.

"September 22d, 1809, at five *p.m.* saw the island of Saxonberg, bearing E.S.E. first about 4½ leagues distant; clear weather. Steered for the said island, and found it to be in the latitude of 30° 18′ S., longitude 28° 20′ W., or thereabout.

"The island of Saxonberg is about four leagues in length, N.W. and S.E., and about two miles and a half in breadth. The N.W. end is a high bluff of about seventy feet, perpendicular form, and runs along to the S.E. about eight miles. You will see trees at about a mile and a half distance, and a sandy beach."

It is to be observed that the situation of this island is about eleven degrees to the westward of the situation lately assigned to the doubtful Saxemberg. The longitude given by Mr. Long is, however, so near the track of Captain Cook, in 1776, and other navigators, that we are apprehensive it is not quite correct.

14. GRANT'S

14. GRANT's BREAKERS.—Captain Grant, in the account of his voyage to New South-Wales, in 1800 and 1801, has observed that, thirty-two miles S.E. ½ S. by compass, of latitude 31° 13′ S. and longitude, per *account* 11° 48′ W., he discovered some high and dangerous breakers, which he supposes to be the same seen by Captain Smith, in the ship Comte de Molke, in 1760, as represented on the charts in latitude 31° 0′ S., and longitude 21° 45′ W. We quote this as an object worthy of future investigation.

15. TRISTAN DA CUNHA.—The situation of these islands, as given by Captain Sir Erasmus Gower, of H.M.S. Lion, in 1792, was as follows: Latitude of the anchorage off the great isle, or that of Tristan, 37° 6′; longitude, 11° 43′. The mean of the lunar and chronometric observations of this and four East-India ships gave the longitude only one minute more, or 11° 44′. The Northampton, by lunars, 1803, made it 11° 50′. Captain Heywood, who touched here, in H.M.S. Nereus, in 1811, deduced the longitude, by his chronometers, and run from Rio Janeiro, as 12° 3′, and we have since been informed that this is certainly the most correct. A letter from an officer of the Penguin, 16th January, 1815, assures us that, from excellent sights, taken when off the island, the longitude, ultimately corrected, proved to be 12° 2′ W.

The Isles Tristan da Cunha, discovered by the Portuguese in their earlier navigations, were explored and described by the Dutch, in 1643. These islands are three in number, forming a triangle, of the which the largest isle, *Tristan*, is the N.E. point. The other two islands were named by the French, in 1767, the westernmost *Inaccessible Island*, and the smallest, or southernmost, *Nightingale Island*.

M. D'Etchevery gives the following account of the French exploration: "September the 9th, 1767, at five *a. m.*, I made the three islands of Tristan da Cunha, bearing E. and E. by N., distant about ten or twelve leagues; the wind then westerly, I steered east to examine the middle island, which is the westernmost; and, being at noon abreast the north-east point, I sounded at a mile from the shore, with the middle of the island bearing west, where I found twenty fathoms, black sand, and some reddish stones. This island is high, flat at top, and may be seen fifteen or sixteen leagues off: it is about two leagues in circuit, and appears barren, steep, and inaccessible; some scattered shrubs only are to be seen on it; I perceived no danger near it, but a rock, like a boat under sail, is visible at the S.E. point.

"I stood on, leaving this island, to examine the smallest, which is three leagues to the S.E. It has, at the N.E. point, two islets, separated from it about fifty paces, and which have the appearance of an old ruined fort; I passed along at pistol-shot distance: continuing to steer along the island, I found ground at thirty fathoms; and, when its middle bore W.S.W., I anchored in thirty-three fathoms, coarse brown and reddish sand.

"The night threatened bad weather. I postponed sending the boat ashore till morning: according to the report made to me, it is so full of sea-weeds twined together, that there is much trouble in approaching the barren rock, which forms this island. The reeds with which it is covered, did not let them penetrate the island, besides the great number of penguins, whose eggs are so close together, that the men could not walk without breaking them: these difficulties, and the want of fresh water, which they searched for in vain, induced them to return on board. They saw plenty of fish on the coast, and many were caught.

"*September* 10. Weighed anchor in the morning, and steered towards Tristan da Cunha, the largest of the three islands, which lies about five leagues to the N.N.E. of the little one. It is about five leagues in circumference, and so high that it may be seen twenty-five leagues off. The peak, in the middle of it, is covered with snow, and the land thence, down to the sea, covered with bushes. In coasting near the land, after doubling the N.W. point, I descried a cascade, which falls into a little bay; I sent the boat to sound this part, eighteen fathoms were found close to land, and thirty at a quarter of a league from shore. We anchored in the latter, gray sand mixed with small pebbles.

"The boat which went on shore found no difficulty in approaching it, but from the entangled sea-weed, which bars all the coast: a cask of fresh water was brought on board, which had been easily obtained; but they could not land, excepting to the left of the cascade, on a beach of round pebbles, about the size of an egg. To the right of the cascade are rocks, on which the sea breaks heavily. The shore was covered with seals and sea-lions; plenty of fish was caught, particularly of a species of cod."

An approach to the islands may be generally known by the floating sea-weeds, seen on the water, which are sometimes met with far out at sea.

The ships Lion and Hindoostan, with the British Embassy for China, touched at these islands, in 1792. From the History of the Voyage we have the following particulars. These ships took a southerly course, from Rio Janeiro, until they arrived in the thirty-seventh degree of south latitude, where the prevailing winds are chiefly westerly. In this track tempestuous weather is frequent, and the squalls sudden and violent. The navigation was continued in this parallel for some days, with a desirable breeze from the westward; and, on the 31st of December, the isles of Tristan da Cunha were descried.

Inaccessible Island, a high bluff, of forbidding appearance, seen at the distance of twelve or fourteen leagues. Its latitude 37° 19′. *Nightingale Island*, irregular, with a hollow in the middle, and a small rocky islet at its southern extremity; descried at the distance of seven or eight leagues. Latitude 37° 29′.

Tristan, discoverable at the distance of twenty-five leagues. Towards the northern part there is an elevation a thousand feet perpendicular from the sea; then commences a level or table-land, extending to the centre of the island; and above that rises a conical mountain, not very dissimilar to the Peak of Tenerife, as seen from the bay of Santa Cruz. Having previously examined the shore, and taken soundings in boats, the Lion stood in, and anchored, in the evening, on the north side, in thirty fathoms of water. When the ship was at anchor, she was overshadowed by the dark mass of that portion of the island, whose sides seemed to rise like a moss-grown wall immediately from the ocean. Here a sudden gust of wind started the anchor, and the ship for safety put to sea. The sword-fish, whales of every species, sea-lions and seals, penguins and albatrosses, appeared to frequent the coast.

To the log-book and notes of Captain John Patten, of the ship Industry, from Philadelphia, we are indebted for the following information. Captain Patten was a temporary inhabitant of the largest of the three islands, where he remained with part of his crew, collecting seal-skins, from August, 1790, to April, 1791. He says: "The northernmost island is the largest, and is about thirty miles in circumference. The next is about twenty miles, and bears W.S.W. by compass from the large island, and is about nine leagues distant. The third, or smallest, is about fifteen miles around, and about eight leagues distant. They are all three of a circular shape, and consist of very high land, with clear open passages between them. Their shores are, in general, bold, and are exempt from shoals or other dangers to navigation, except a high reef of rocks, or rocky islets, off the south end of the smallest island.

"The current sets to the N.E. There is a regular tide, the water rising from eight to ten feet. While Captain Patten was there, the prevailing winds were from the northward and westward; the easterly and southerly winds blowing but seldom, and scarcely ever longer than twenty-four hours at a time. It generally blows fresh, and frequently very hard, from the N.W.; and, when a gale came on, it was generally preceded by a very heavy sea, rolling in sometimes twelve, and sometimes twenty-four hours before the wind rose. The weather is very subject to be thick and hazy, attended with much rain. The summer months are warm, but the cold in winter is very severe.

"There is a bay on the N.W. side of the large island, which, however, is open and exposed. It has a fine beach of black sand, where the boat was hauled up. There are two falls of excellent water, affording an abundant supply, sufficient for the wants of a large fleet; and from one of these cascades the water-casks might be filled by means of a long hose, without moving them from the boats. The Industry's people pitched their tents at this bay. Around it is plenty of wood. The trees do not grow high, but their branches bend down, and spread on the ground. The foliage of the trees, that principally abound, resembles that of the yew-tree, but the wood is like that of the maple, and burns remarkably well; the trunks are about ten feet in height, and about nine inches in diameter. There are no large or tall trees to be met with. A great deal of drift-wood is found on the east side of the island, but none to the westward. Abundance of wild celery, sour dock (sorrel), and wild parsley, is met with. The rocks yield great quantities of the sea-weed, called laver, and the shore is covered with a broad sea-weed, several fathoms long (*fucus giganticus*). No quadrupeds were met with, except some goats, left there by former navigators, and which were very wild. Seven of them were shot. Neither vermin nor venomous creatures of any description were observed. Of birds, the principal were a kind of gannets, like wild geese, which the sailors considered as excellent food; penguins, albatrosses, Cape cocks and hens, a bird like a partridge, but

but of a black colour, which cannot fly, is easily run down, and is very well flavoured; and a variety of small birds, that frequent the bushes and underwood. Abundance of birds' eggs are to be obtained in the proper season.

"There are large quantities of fish, particularly a kind of large perch, some weighing six pounds; file-fish, in large shoals, craw-fish, star-fish, and others. They had no nets, and therefore did not catch much fish. What they caught was with hook and line, and the craw-fish were thrown up by gales of wind. No other shell-fish were found. The shore is covered with seals, sea-lions, and sea-elephants, (the tongues of which are reckoned good eating,) and whales abound in the offing, particularly *killers*. Most of the whales observed in these latitudes were cow-fish, or females.

"In the seven months that Captain Patten was on shore at Tristan da Cunha, he obtained 5600 seal-skins, and could, he says, have loaded a large ship with oil in three weeks. Both the sea-elephants and the sea-lions, as well as the seals, afford large quantities of oil; but, as their business was to collect skins for the China market, they killed such seals only as suited their purposes. September he reckoned to be the best month for making oil at these islands.

"The middle of the large island rises in the shape of a sugar-loaf, and is very much elevated. Trees grow half way up, but, higher up, the mountain consists of bare and rugged rocks, frequently hidden by the clouds, and the summit is covered with snow during the greatest part of the year. No snow, however, was observed to fall on the coast. There is a considerable extent of level land between the foot of the mountain and the shore, the soil of which is a fine rich loam, of a red colour and considerable depth, apparently adapted to the production of every kind of vegetable; and, excepting the danger of devastation from high winds, adequate to any cultivation.

"The productions of the other islands are nearly the same as those of the large one. They afford no safe anchorage.

"Captain Patten saw the remains of different wrecks at Tristan da Cunha, such as the bowsprit and mast of a cutter, several spars, some of which were worm-eaten; some iron-hoops, and other pieces of iron; but he did not perceive the marks or traces of any huts or habitations.

"Capain Colquhoun, of the American brig, Betsey, touched at Tristan, and planted potatoes, onions, and a variety of seeds there."

Captain Heywood was at Tristan on the 5th and 6th of January, 1811, and found the variation, close to the island, 9° 90′ W. The height of its summit was found to be about 8326 feet above the level of the sea. Three Americans were there, who proposed to remain for a few years, in order to prepare seal-skins and oil, for sale, to vessels that might touch there. The interior appeared to abound with goats and wild hogs; and to be formed, like St. Helena, of abrupt hilly ridges, with chasms or deep valleys between them, probably of volcanic origin.

On the 4th of February, in the same year, Jonathan Lambert, one of the Americans above mentioned, by a curious and singular edict, declared himself sovereign proprietor of these islands. In a short time he cleared about fifty acres of land, and planted various kinds of seed, some of which, as well as the coffee-tree and sugar-cane, were furnished by the American minister at Rio-Janeiro. The seeds sprung up, appeared very promising, and the general aspect was that of a valuable and important settlement. The whole has, however, been abandoned, and formal possession since taken, in the name of the British government, by a detachment from the Cape of Good-Hope.

An official notice, 30th March, 1817, announced the occupation of the islands by a force from the Cape; stating farther, that "there is good convenience for watering at the principal island, the latitude of which is 37° 3′ 45″ S., and longitude, by time-keeper, 11° 45′ 55″ W. Variation of the compass, 11° 10′ W."

The island has, however, again been evacuated. We have, lastly, been told, that several families voluntarily went to it, after it was given up as an establishment, entirely independent of control from government; but whether they may remain, or any part of them, seems to be uncertain.

16. GOUGH's ISLAND, or DIEGO ALVAREZ.—Captain Heywood, in the Nereus, visited this island on the 8th of January, 1811, and made the longitude, by his chrono-*meters*, 2° 18′ E. from Tristan da Cunha: this gives the longitude stated in the Table. By a mean of observations and chronometers in nine other ships, its centre has been given in 40° 19½′ S. and 9° 41¼′ W. Captain Broughton, in 1795, gave the latitude as

40° 1[illegible]

40° 19′, and the longitude as 9° 27′ or 9° 30′; but he observes that, at the time the horizon was very confused; and other ships have given the longitude nearly the same. The Coutts, Captain Robert Torin, in 1800, made it, by lunars, 9° 46′.

Captain Heywood found the summit of this island to be 4380 feet above the level of the sea. The surface of the isle was mostly covered with a light coat of mossy grass. In some places were a few small bushy trees, like those of Tristan da Cunha. The cliffs rise precipitously from the sea, and from their fissures issue several beautiful cascades of water. At a cove on the north side of the island the boat landed with safety, just to the eastward of one of the rocky islets adjoining that side of the island.

Near the N.E. point of the island is a rock, exactly resembling a church, with a high spire on its western end; and therefore called the *Church Rock*. To the southward of this rock, on the east side of the island, near the shore, there is an islet, within which the landing is safe and easy, it being protected from the swell and northerly winds by the N.E. point. Here several Americans resided, but they had been unsuccessful during a long stay, most of the seals having deserted the island; but plenty of fish were procured; and birds of good flavour were caught, by lighting a fire upon one of the hills in the night.

The Americans said a ship might anchor in safety between the islet and the S.E. point of Gough's Island, at about half a mile from shore, in about twenty fathoms, tolerably good ground.

In December, 1813, H. M. S. Semiramis visited this place, and found it deserted.

17. KATTENDYK'S DROOGTE.—We should not, probably, have noticed this, if it had not appeared, without any notice of authority, in several modern charts. It is only to be traced in those of the Dutch, and its existence is, therefore, very doubtful.

18. LENNON'S REEF.—We give this upon the authority of a letter which we have received from Mr. John Lennon, commander of the ship Hibernia, which is as follows:—

"I have to inform you that, on the 9th of April, 1817, on my passage to India, in the ship Hibernia, I touched at the island of Tristan da Cunha; and at eight *a.m.* of the above date sailed again. When clear of the island, steered E. by S. with a fair wind, until half-past eleven *a.m.* of the 12th, then in lat. 37° 31′ S., long. 4° 42′ W. Ship going at the rate of seven knots per hour, perceived a sunken rock close on the larboard bow; bore up immediately, and, with great difficulty, escaped running on it. The part or end that, at one time, was close alongside, I could very distinctly perceive. The rock was about nine feet under water; and, at the distance of about one hundred yards, where I suppose the rock was nigher the surface. There appeared fields of weed growing from the rock. On taking a good look-out, all round, we could perceive two other rocks or shoals at no great distance from each other. Bearings from Tristan da Cunha, by compass, E. by S., distant, by log, 357 miles. The weather beginning to get very squally as I was preparing to lower my boat down, prevented my exploring it more to my satisfaction.

"The same information as the above I sent to the Marine Board of Madras and Calcutta on my arrival."

It is to be regretted that we have not the exact position from observation. The longitude is, therefore, uncertain.

19. TELEMAQUE ROCK.—The following communication was dated Batavia, 2d September, 1818.

"We enclose an extract from the log of an American ship lately arrived here, describing the situation of a rock seen on the passage from Baltimore, supposed to be the Telemachus Rock, the existence of which was doubtful. The situation, if accurately laid down, is extremely dangerous, being directly in the track of ships running down their easting.

"Extract from the log of the ship *United States*, of Baltimore, Sherbail Wilkinson commander, from Baltimore to Batavia, July the 20th, 1818:—"At one *p.m.* passed a rock within fifty yards, about six feet above the level of the sea. We plainly saw the shells and small stones in the holes of the rock, when the sea left it: it is about the size of a large ship's hull, and not perceivable till on the top of it; the ship at that time was going eleven knots by the log. I just had time to luff-to to clear it. I supposed it to be

be that called the Telemachus Rock, laid down in lat. 38° 50′ S., but, by four observations, with good instruments, we found it to be in 38° 12′ S., and, by the run afterwards to St. Paul's, to be in long. 22° 0′ E., from the meridian of London."

(Signed) SHERBAIL WILKINSON, Commander.

This shoal seems to have been first discovered by Captain Géraud, in the French brigantine Telemaque, who sailed from the Cape to Madras on the 22d of January, 1786, and who gave its position as 38° 11′ S. and 21° 56′ E. In my questions to the passengers, says a Mr. Petrie, who drew up the account, I was particularly attentive to ascertain positively the existence of such a shoal, beyond all probability of doubt; and I venture, from their answers, descriptions of what they saw, and explanations, to affirm that a very alarming and dangerous shoal exists. It is not improbable that this shoal has proved fatal to some of those vessels which have perished in the voyage to India, and have never yet been heard of. I repeatedly asked the passengers if they thought it was possible that they might have been deceived by the shade of a cloud, or by a particular appearance in the sea; they agreed that, so far as they could trust the evidence of their eye-sight to a very near, conspicuous, and distinct, object, they could not be deceived; they not only saw green moss and grass upon the rock, but, in some places, the bare rock, perfectly distinct and plain, on both sides of the vessel; and one of the passengers said, he was perfectly convinced that the depth of water, on some parts of the rock, was not more than two fathoms.

Acquainted with these particulars, we can no longer consider the Telemaque Rock as doubtful. Optical illusions on the face of the sea are certainly not uncommon. This we admit; and, farther, will give an example:

The Northampton E.I.S., Captain E. Tebbats, on her passage to India, in 1818, had passed the meridian of the Cape. On the 1st of August, at noon, the ship was in lat. 40° 45′ S. and 24° 32′ E. On the next day an object appeared right a-head, like a boat; on nearing it looked like the wreck of a vessel, two parts being above water, at two ships' length from the lee-bow. The barnacles could be distinguished by the naked eye; but, when abeam, the wretch *went down*. It proved to be a *thrasher*. "Being forward at the time we came up with the creature, the two parts above water seemed to me like a wreck, bottom upwards. When I first saw the barnacles, the part covered with them looked rugged, and I firmly was of opinion that it was a rock above water; so much so that I looked over the lee-bow to see that we were clear of it, ordering the man to starboard the helm."

20. ISLA GRANDE.—This island, although unsuccessfully sought for by Captains Perouse, Colnett, and Vancouver, may probably exist near the situation indicated in *the* Table. From the original account, re-published by Mr. Dalrymple, we give the following extract.

"In the latitude of 45° S. there is a very large pleasant island, discovered by Lieut. La Roche, a native of England, in his passage from the South Seas, in the year 1675. The Spanish author, who gives the abstract of La Roche's Voyage, printed, according *to him*, in 1678, says, that La Roche, leaving the land, (discovered by him, in 55° S., and which was seen by the Leon, in 1756,) and sailing one whole day to the N.W., the wind came so violently at south, that he stood north for three days more, till they were arrived in 46° S.; when, thinking themselves then secure, they relate that, directing their course for the Bay of All Saints, in Brasil, they found, in 45° South, a very large pleasant island, with a good port towards the eastern part, in which they found wood, water, and fish: they saw no people, notwithstanding they stayed there six days. The size of this island is not mentioned in the Spanish abstract; but the expression *muy grande*, very large, and the expectation of finding inhabitants, seem to indicate that it is of great extent.

"The existence of this island, and, in some measure, its extent, is confirmed by *other* authorities: for Halley, near this longitude, in about 43° S. says, "The colour of the sea was changed to pale green; and in 45° S. he saw abundance of small sea-fowl and beds of weeds." Funnel, in his passage into the South Sea, also mentions signs of land, from about 40° South, near this longitude. The Nassau fleet, 1624, had, also, signs of land here, so as to think themselves near the southern continent.

"These testimonies, and the Leon, in 1756, finding the other land mentioned by La Roche, leave very little reason to doubt his veracity: and, if there is such an island, in 45° S. latitude, it cannot fail of being a very temperate and pleasant country, in a situation

ation very favourable for carrying on the whale-fishery and others, and also for the prosecution of any commerce which may be found in the countries to the south."

The preceding remarks, published by Mr. Dalrymple, in 1775, appear to have excited attention; since we find that, ten years after, under the orders of the French government, M. la Perouse was in search of the island. In 1793, Captain Colnett sought for it, under the special direction of the British Admiralty; and Captain Vancouver in 1795. From a particular examination of the tracks of the three ships, we are clearly of opinion that the island does not lie to the westward of longitude 33° from Greenwich.

It was near this meridian of 33° W. and in 45° S. that Perouse and Colnett, both from the N.W., or Coast of Brasil, shaped their course to the westward, after meeting with the usual indications of land, as birds, sea-weed, &c. Of the two, Colnett proceeded farthest to the east, between the parallels of 40 and 43 degrees, where the greatest number of these indiciæ were found. La Roche says that, when he left the land, since called Southern Georgia, a great current set to the N.E. How far this might operate is unknown; but we think it very likely that he may have been driven much farther to the N.E. than he imagined, and that the island may exist near the parallel of 43° in about 30° W.

21. The CIRCUMCISION LAND of Bouvet.—This land was discovered by M. Lozier Bouvet, in the French frigate L'Aigle, accompanied by La Marie, on the 1st of January, 1739. The particulars, with a plate, were published by Mr. Dalrymple, in his Collection of 1775.

Between the parallels of 48° and 49° S., and in about 7° of longitude E. from Tenerife, (9° 40′ W. of Greenwich,) the fogs commenced, and became so thick that the two ships could not see each other at the distance of a pistol-shot. On advancing more to the south, these fogs were frequent.

On the 15th of December, icebergs were seen, some appeared to be 100 fathoms high, above the water. Much drift or broken ice was met with, and the ships luffed up, in order to avoid damage. Some icebergs, subsequently seen, were supposed to be 200 fathoms in height. The navigation became dangerous; and, for many days that the ships were in these seas, the masts, cordage, and sails, were covered with ice.

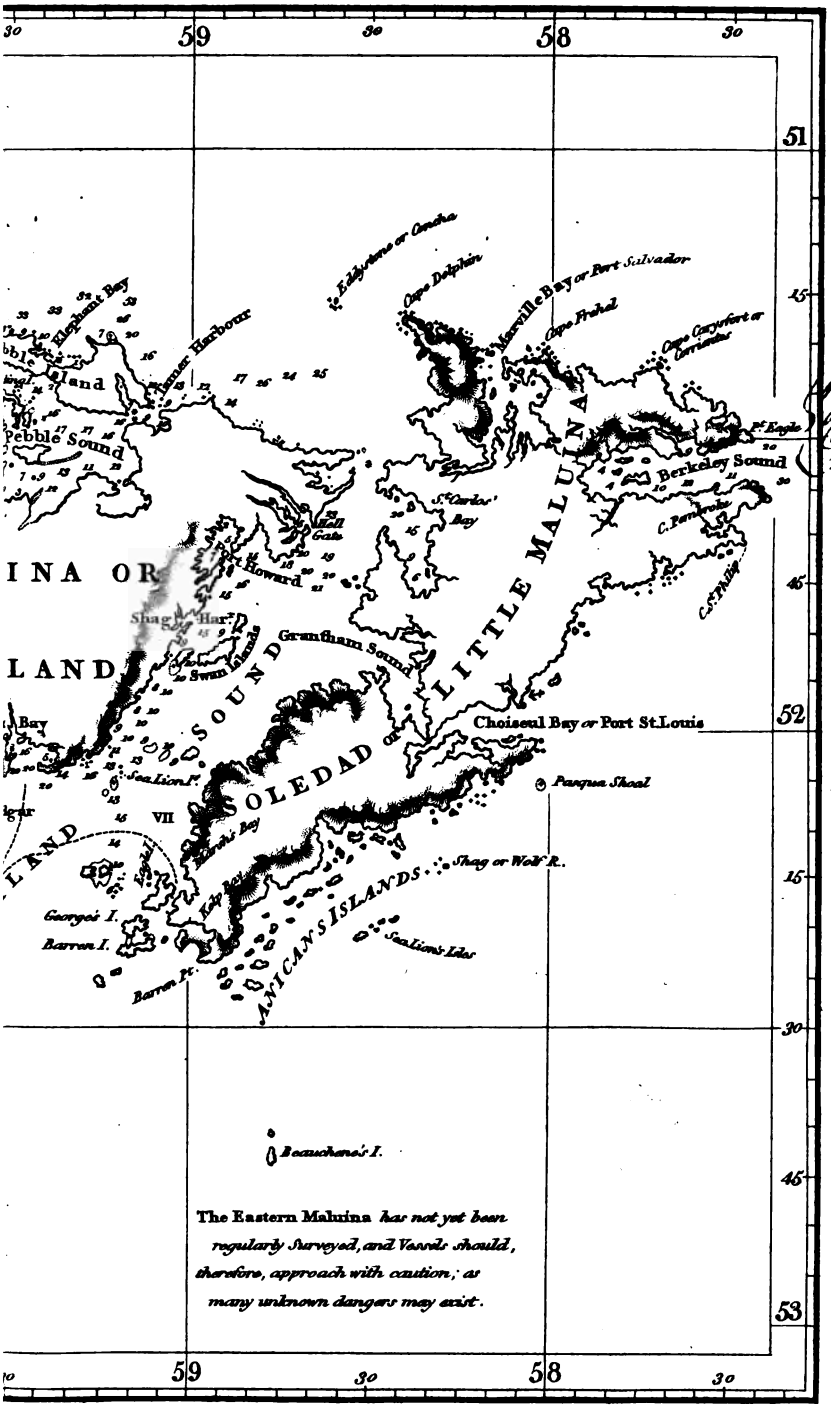
On the 1st day of January, 1739, (the festival of the Circumcision,) at three *p.m.* the ships, in 54° 20′ of latitude, and longitude, as *computed*, 25° 47′ E. from Tenerife, (9° 7′ W. from Greenwich,) land was seen to the E.N.E. at eight or ten leagues. It seemed very high, covered with snow, and surrounded with ice, to a considerable distance. On the 2d of January, the ships having proceeded more to the S.S.E., the western part of the land bore N.E. about thirteen leagues. On the 4th, they had advanced to five leagues from the land, which, high and rugged, bore E.N.E., and they finally lost sight of it on the 9th, leaving it to the southward. It appeared to be an island, about five leagues in length, W.N.W. and E.S.E.

Notwithstanding the preceding description, this land was, for a time, given up, as imaginary only. Captain Cook sought for it without success in 1775; on the 16th February, he came up from the southward, under double reef topsails and courses, having a very fresh gale, with snow and sleet. On the 17th, he was in 54° 20′ S., longitude 6° 33′ E., and thence proceeded to the eastward, with a prodigious high sea from the south. He continued his course to the eastward until the 21st, and concludes his description of the route with this observation:

"We had now run down thirteen degrees of longitude in the very latitude assigned for Bouvet's Land. I was, therefore, well assured that what we had seen could be nothing but an island of ice; for, if it had been land, it is hardly possible we could have missed it, though it were ever so small. Besides, from the time of leaving the southern lands, we had not met with the least signs of any other. But, even supposing we had, it would have been no proof of the existence of Cape Circumcision; for, I am well assured that, neither seals nor penguins, nor any of the oceanic birds, are indubitable signs of the vicinity of land. I will allow that they are found on the coasts of all these southern lands; but are they not also to be found in all parts of the Southern Ocean. There are, however, some oceanic or aquatic birds which point out the vicinity of lands, especially shags, which seldom go out of sight of it; and gannets, boobies, and man-of-war birds, I believe, seldom go very far out to sea."

Whoever refers to our large chart of the world, will perceive, by the track of Captain Cook, that he advanced from the southward *a little too far to the east*. He was misled by the original longitude of M. Bouvet. This is clear; for Captain Lindsay, in the Swan,


30
61
30
60
51
JASON ISLANDS
North Jason
West Key
Low I.
Jason
St Paul I.
Steeple Jason
Skipper
Duck
Grand I.
Penguin I.
Sedge
Wreck I.
Grand Jason
Hope Roost
Half tide Rock
White Rocks
Carcass I.
Var. 23° E.
Fur I.
White R.
Gibraltar R.
SAUNDERS ISL.
Seal I.
Bacon Sound
Port Egmont
West Bay
Spit I.
North Bay
Bare I.
Seal R.
W. Fish R.
George Bay
Saddle I.
North H.
New I. or S. Felipe
St Helen's I.
Loop H.
Beaver I.
C. Percival
French Harb.
Horse Block
Great Harb.
Fox
Charlotte Bay
New Year I.
Hog I.
C. Orford
South Bay
Corcalle Cove
Rodney Bluff
Port Rodney
Port Stephens
Bird I.
Stephens Bluff
Cape Meredith
St. Philip's Bay
Port Albemarle
Isle in the Rock
Var. 25° E.
GRAND MALU
FALKLAND IS
THE MALUINAS
OR
FALKLAND ISLANDS.
45
52
53



t Street, London. 22nd. July. 1822.

Swan, descried the land on the 6th of October, 1808, which was found to be high, and covered with snow. From this time to the 11th, he made every endeavour to get close to the land, but found that it could not be approached within three miles, being surrounded by a mass of solid ice. The situation of the ship was, at times, perilous; it being in darkness, and beset with loose masses and floating islands of ice.

The existence of this island has been proved by another vessel, the Otter, from which it was seen nearly at the same time, October, 1808.

From the observations taken in the Swan, the island appears to lie in 54° 16′ S. and 6° 14′ E. It appeared to be about five miles in extent, from East to West. The west end, which is very high, is now called *Dalrymple's Head.* It has been suggested as probable that the isle may be approached in January or February, or during the summer of the southern hemisphere.

22. FALKLAND'S ISLANDS, the MALUINAS of the Spaniards.—These islands have borne different names, successively imparted by the older navigators. They are supposed to be the PEPY'S LAND of Cowley, 1584, and Sir Richard Hawkins, ten years after, 1594, called them VIRGINIA and MAIDEN LAND, in honour of Queen Elizabeth. In 1639, Captain Strong gave the name of FALKLAND to the strait which divides the two larger islands, and this name has since been extended to the whole group. In 1706 they were visited by some French from St. Maloes, whence the name of MALOUINES and MALUINAS, given them by the French and Spaniards. An attempt was made by M. de Bougainville, in February, 1764, to establish a small colony on the eastern island. Their port was in the Bay of Accaron, or Berkeley Sound. Wood was procured from the Strait of Magallan, for the construction of dwellings, and a fort of clay, dedicated to St. Louis, was erected. European grain was sown with success, and the cattle increased. The court of Spain, however, claiming the islands, the French establishment, after it had existed two years, and amounted to one hundred and fifty individuals, was withdrawn; Spain refunding the expenses of the speculators. In 1764 the English took possession of the western island, and formed a settlement at Port Egmont, on the north side, which was continued, at the risk of a war, until 1774, when, being found totally useless, as a commercial station, the islands were abandoned to Spain, who seems to have made no use of them, than a place for the transportation of convicts. Recently they have been taken possession of, in a formal manner, as belonging to the United Provinces of South-America.

The islands and islets, in general, appear equally bleak and desolate, presenting barren shores and naked lime-stone mountains, with no other vegetation than heath and grass. In the low grounds a stratum of peat, two feet thick, covers a bed of stone or slate. The quadrupeds are wolves and foxes, which earth themselves alike. Seals and sea-birds are innumerable. The advantages of the islands are their excellent harbours, a climate commonly temperate and healthy, but subject to great vicissitudes. The running waters are abundant. Though the islands have no wood, there is no want of fuel, the peat affording it in abundance. Large quantities are sometimes found, which appear to come from the south and west.

Our information, with regard to the islands, is yet imperfect. The positions in the Table are, however, given as nearly as we could obtain them: we believe that they are very near the truth; especially in the western points.

Lieutenant Grant, commander of the Lady Nelson, in the relation of his voyage to New South-Wales, has given some useful remarks on these islands. He states that, on the 21st January, 1802, having before intended to touch at these islands, they came safely to an anchor in Hope Bay, or Little West-Point Harbour, in the N.W.; and then proceeds as follow:

"Our intention had been first to touch at a cluster of islands to the westward, called NEW ISLANDS by the Americans, who are the most constant visitors of Falkland's Islands. On New Islands are found plenty of goats and hogs. They lie about thirty miles S.S.W. by compass from West Bay, as a N.N.E. course carried us from them clear to the entrance of West-Point. They are distinguished by a particular saddle-island and a bluff, standing separately from each other. They are a little to the northward of Beaver Island, and may be easily found by the two remarkable islands just mentioned.

"As it is of the greatest consequence to mariners, when in want of water or refreshments, to obtain every possible information in order to secure a port amongst this foul-weather group of islands, which purpose may be defeated by the smallest oversight, I think that a few remarks made in the run may not be unacceptable.

"Having made New Islands, the westerly wind, which generally prevails, blowing very strong and in squalls, would not permit us to anchor; we were, therefore, under the necessity either of making the harbour of West-Point, or running in the night through a passage among the Jasons, well known to be full of rocks and shoals, many of them not laid down in any Chart. I have before observed, that, thirty miles N.N.E. by compass brought us to the entrance of West-Point Harbour. In this run there are, on the right hand, a few small flat islands, called Pass Islands: these ought to be kept on board near enough to see the surf breaking on them; and, soon after, a remarkable island, with a steep side, will present itself, having the appearance of a split in the middle, which has given it the name of Split Island. Here we observed the latitude at noon to be 51° 14′ S., when it bore E.N.E. by compass, distance three miles. The Split must be brought to bear S. by W. in running in, and N. by E. in coming out: observing this, a vessel will find itself in the fair-way; and, right-a-head coming in, or right-a-stern going out, a sight will be had of West-Point entrance, making at first like three hummocks, to the right of which is the mouth of the harbour. The small harbour on the left is preferable to the larger one on the right, though anchorage may be found in both, but fresh water may more readily be had in the little harbour. Both these together form nearly an oval, divided by the passage which runs directly through, where the tides of flood and ebb alternately enter. A vessel must therefore haul close round the rocks on the south side, to get into the little harbour for the ebb-tide, with which she must go in, unless it blows very strong, so as to enable her to stem the flood; both tides running here with great rapidity, and, when it blows hard, raising a confused sea. There is a sandy beach at the top of the harbour, off which a vessel may choose her depth of water to anchor in. In going out of the harbour, the northern passage is most eligible; and a westerly wind, with a course N. by E. by compass, will carry a vessel out, provided she get under way at the first of the ebb.

"Five small perpendicular rocks, called the Needle Kays, appear when out, standing together, bearing N.E. by E., or thereabouts, from the harbour's mouth. It is best to leave them on the right; but, should there be little wind, and the tide strong, as was the case when we passed them, a vessel may go close to the right of them. The tide must be attended to, as it runs strongly betwixt them. The water close to them is very deep, as we were carried by the tide near enough to throw any thing upon them. The bottom is very foul, so that if an anchor is let go, it is a chance if it is ever recovered; and should the wind continue light, the tide of flood making, a vessel may anchor at Sedge Island, if she can get as far down, where ten fathoms water will be found, with a sandy bottom, within two or three miles of the shore. From Sedge Island, a N. by E. course will carry a vessel clear out to sea.

"It is proper to observe here, that, if a vessel is obliged to leave the Needle Kays on her left hand, the nearer she keeps to them the better; and even to haul over on the larboard side after she is past, as she will have the more room to weather a ledge of rocks lying at a considerable distance out from Saunders' Point, as is shewn in Lieut. Edgar's Chart. This passage is much preferable to running through the Jasons.

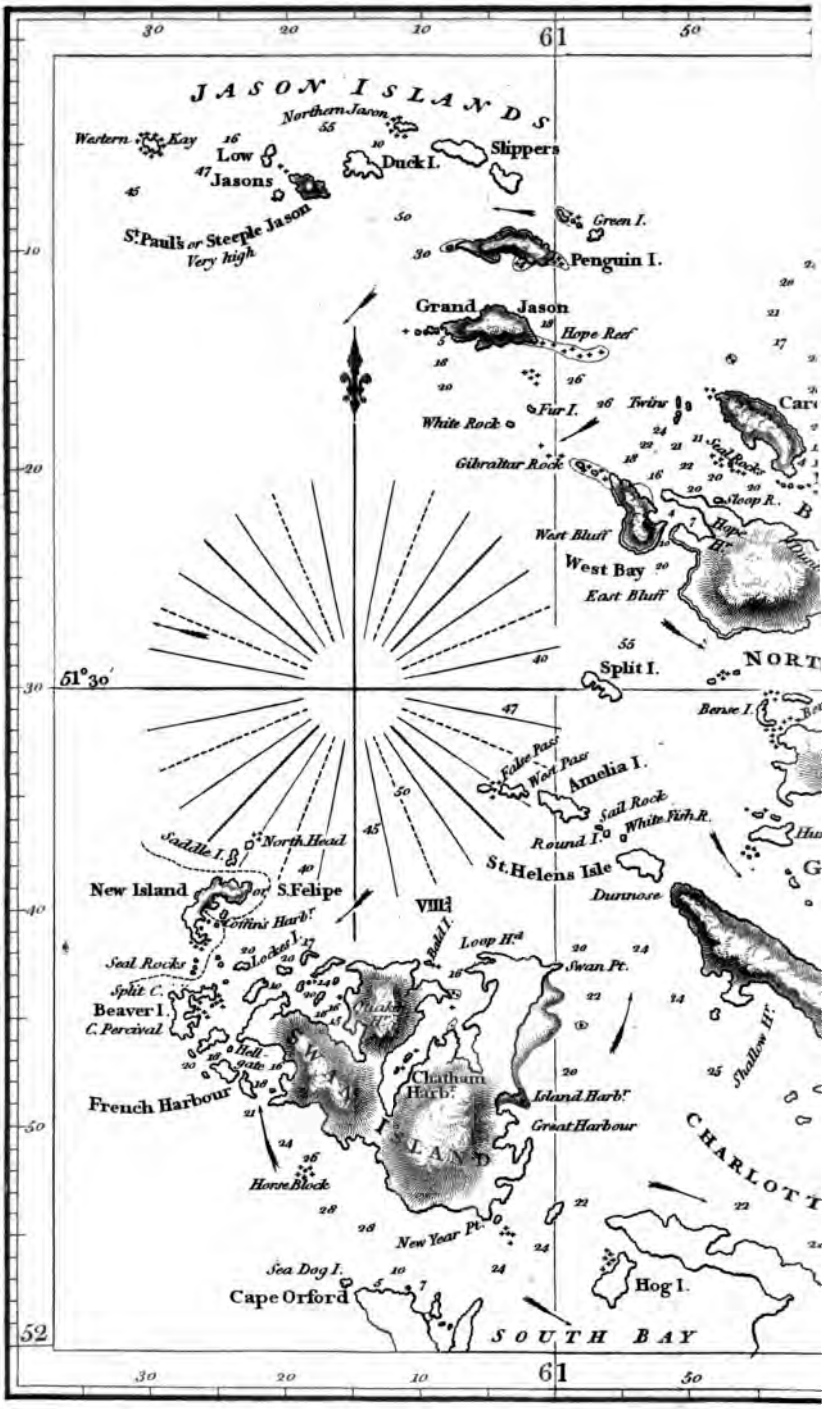
"Falkland's Islands have been described by many voyagers, whose stay there gave them better opportunity of observation. I shall just observe that they lie very convenient for being touched at on long voyages, when there happen such a necessity for a supply of sea-stock as we experienced.

"The soil is light, producing a strong grass, known by the name of fussack, which, if set fire to, the turf will burn for a considerable time; and, notwithstanding heavy rains, it is not to be extinguished. I saw but little timber, and even brush-wood did not appear to be in plenty. Few birds are to be seen, but geese and penguins are in great numbers.

"The penguin has been often described, and must be known to most of my readers. It forms burrows in the earth, where it rests, and, marching in the morning in bodies to feed, returns to them at night to rest. One of them is generally found near the retreat, seemingly placed there as a sentinel. If you approach near his post, he gives an alarm, and retreats, returning when you are at a distance.

"We found the geese excellent eating, without the least taste of fish, as they live on grass and sea-weed. Celery was found growing plentifully. We used it freely, as its antiscorbutic virtues are well known.

"We found an American ship lying here, called the Washington, of Nantucket: her commander, Jedediah Fitz, informed me that the American sailors have discovered potatoes



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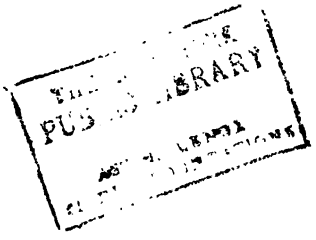
60
Sedge I.
Kelp and foul ground
Kelp and foul ground
Wreck I.
Half tide Rock
White Rocks
Carcass I.
NW Point
Var. 23° E.
Half tide Rock
SAUNDERS ISLAND
Seal I.
Bretts Harbour
Keppel I.
BYRON S.
Port Egmont
SOUND
Burnt
Ship Rock
NORTH BAY
Hummock I.
GEORGE BAY
FALKLAND OR GRAND MALUINA
Fox I.
BAY
THE
NORTH-WESTERN PART
of the
MALUINAS,
OR
FALKLAND'S ISLANDS.
60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latoes eaten raw to be a powerful antiscorbutic; and that their whaling-vessels constantly took a quantity with them to sea, to eat raw, as an antidote against the scurvy. He had planted a garden here, as was the custom with vessels visiting this place, and he brought some potatoes fresh dug from it, which he recommended me to taste, after setting me an example. I complied, and must say that I have before taken a more unpalatable medicine. He made use of the young leaves of the common dock, boiling them as cabbage, to eat with his meat. He stripped the leaf from the rib or stem in the middle, which he said had a purgative quality. He made no use of the celery, as he thought the dock was preferable to it. I dined with him on board his ship, when a dish of the latter vegetable was served upon table, and, upon eating, I thought its taste not unpleasant.

"All things being ready for our departure, we sailed from Falkland's Islands for the Cape of Good-Hope on the 27th of January, with a favourable wind, which began to fail us so soon as we reached the island of Tristan da Cunha. We were now becalmed; and this was our situation from about the middle of February to nearly the latter end of March; a dreadful interval of time! the like of which I most devoutly pray I may never again experience."

It is to be observed that the Eastern or Little Island has never yet been regularly surveyed, and its true figure is yet unknown. Many dangers, not yet laid down in the charts, may, therefore, exist in the vicinity. Of this there has lately been a signal example, in the sudden loss of the French sloop Uranie, which was wrecked on the 13th of February, 1820, by striking on a sunken rock near the mouth of '*French Bay*.' This vessel, commanded by M. Freycinet, was returning from her voyage around the world. She had been driven by a dreadful storm from Good Success Bay, in Tierra del Fuego. Happily her people and stores were saved, by an American, which happened to be near the spot. The account of this accident is so vague that we cannot gain from it the position of the rock, but it is clear that, by *French Bay* is meant the *Berkeley Sound* of our charts.

Mr. Wm. Marsh, of the brig Nancy, 1813, has favoured us with a rough sketch of the Maluinas, by which it appears that there is a group of isles at the S.W. end of Soledad, or the Little Maluina, which form a convenient harbour, the track to which is denoted by the Chart. Kelp Bay, to the eastward of this group, is full of weeds.

The late Captain John M'Bride, of the Royal Navy, kept a regular journal of the winds and weather at the Falkland Islands, from 1st of February, 1766, to 19th January, 1767, which was published in 1775, by Mr. Dalrymple. The journal concludes with the following general remarks:—

"From looking over the foregoing journal of the winds, for the space of one year, they will be found to prevail in the western quarter, and generally blow a close-reefed topsail gale, with a cold air. In November, the winds begin to be more frequent in the N.W. quarter, generally hazy weather, and for the most part blow about sixteen or twenty hours, when it begins to rain; the wind then regularly shifts into the westward, and so on, till it gets to the S.W. by S. and S.S.W., when it blows fresh, and clears up. This S.S.W. wind continues for about sixteen hours, then dies away, when the wind shifts again to the N.W. quarter: this continues during December, January, and February, and changes in the manner above mentioned every three or four days. As March comes on, you have these changes but seldom; and, as the winter advances, they are seldom in the N.W. quarter, but rather incline to the E.N.E., which is generally accompanied with sleet and snow. There is not the least proportion in the gales between winter and summer. In summer, (as I have before observed,) as the winds are in the westward, they blow in such heavy squalls off the tops of the mountains, that it is sometimes an hour before a cutter can row to the shore, although the water is smooth, and the distance of but one cable and a half off. In winter, the winds are pent up by a keen frosty air: the most lasting gales are those from S. by E. to S. by W., and are extremely cold."

In January and February, the thermometer several times rose to 59°, but no higher. In August, it once fell to 20°, but was seldom lower than 32°.

Of the isles, in general, Captain M'Bride said, "We found a mass of islands and broken lands, beaten by storms almost perpetual. Yet this is summer; and, if the winds of winter hold their natural proportion, those who lie but two cables' length from the shore must pass weeks without having any communication with it.

23. BERKELEY SOUND is the PUERTO de la SOLEDAD of the Spaniards; and it

it would, perhaps, be more proper to give it that designation. It was at the N.W. part of this harbour that the French, under M. de Bougainville, had their settlement in 1764, as noticed above. A particular plan of it is given in the journal of the voyage, by which it appears to be more than a league wide at the entrance, extending east and west three leagues, to four islands which lie in the inner part of the harbour; three on the north, and one on the south, side. The latter is the largest, and is called Penguin or Burnt Island. The soundings to the space between these islands decrease from 20 to 7 fathoms; and within the isles from 7 to 3 fathoms. Here, therefore, a convenient shelter may occasionally be found, and a day's sport, if desirable, among geese, bustards, ducks, seals, &c.

24. L'AIGLE SHOAL.—This shoal was seen on the 1st of October, 1817. Mr. Poole places it in latitude 51° 51′, and longitude 64° 50′, as shown in the Table. It extends about north and south, breaking very high in an extent of 200 or 300 yards. The ship was then steering S.E., and about three quarters of a mile from it off and on. Steering south, about a mile and a half, had soundings in 87 fathoms.—*(Communicated by Captain Ab. Bristow.)*

25. AURORA ISLES.—Five small isles, distinguished by this name, are exhibited in the late Spanish charts. The situation of them appears to have been ascertained by the officers of the Atrevida, but we are not acquainted with the results.

26. SOUTHERN GEORGIA.—This land was explored by Captain Cook, in January, 1775, who gives the following description:—

"At 9 *a.m.* (Jan. 14.) we saw an island of ice, as we then thought, but at noon were doubtful whether it was ice or land. At this time it bore E. ¼ S. distant 13 leagues. Our latitude was 53° 56½′, longitude 39° 24′ W. Several penguins, small divers, a snow-petrel, and a vast number of blue petrels about the ship. We had but little wind all the morning, and at two *p. m.* it fell calm. It was now no longer doubted that it was land, and not ice, which we had in sight. It was, however, in a manner wholely covered with snow. We were further confirmed in our judgement of its being land by finding soundings at 175 fathoms, a muddy bottom.

"At four in the morning of the 16th, we wore and stood to the east, with the wind at S.S.E., a moderate breeze, and fair; at eight o'clock saw the land extending from E. by N. to N.E. by N. At noon observed in latitude 54° 25½′, longitude 38° 18.′ In this situation we had 110 fathoms of water, and the land extending N. ¼ W. to East, eight leagues distant. The northern extreme was the same that we first discovered, and it proved to be an island, which obtained the name of Willis's Island, after the person who first saw it.

"At this time we had a great swell from the south, an indication that no land was near us in that direction; nevertheless, the vast quantity of snow on that in sight induced us to think it was extensive, and I chose to begin with exploring the northern coast. With this view we bore up for Willis's Island, all sails set, having a fine gale at S.S.W. As we advanced to the north, we perceived another isle lying east of Willis's, and between it and the main. Seeing there was a clear passage between the two isles, we steered for it; and, at five o'clock, being in the middle of it, we found it about two miles broad.

"Willis's Isle is a high rock, of no great extent, near to which are some rocky islets. It is situated in the latitude of 54° S. longitude 38° 23′ W. The other isle, which obtained the name of Bird Isle, on account of the vast number that were upon it, is not so high, but of greater extent, and is close to the N.E. point of the main land, which I called Cape North.

"The S.E. coast of this land, as far as we saw it, lies in the direction of S. 50° E. and N. 50° W. It seemed to form several bays or inlets; and we observed large masses of snow, or ice, in the bottoms of them, especially in one which lies two miles to the S.S.E. of Bird Isle.

"After getting through the passage, we found the north coast trended E. by N. for about nine miles, and then east and east-southerly to Cape Buller, which is eleven miles more. We ranged the coast at one league distance, till near ten o'clock, when we brought-to for the night, and on sounding found 50 fathoms, a muddy bottom."

Captain Cook proceeded to examine the eastern coast, and took formal possession of the land. The tide seemed to rise about four or five feet. High water at about 11 h. full and change. The head of Possession Bay, as well as two places on each side, was termi-

terminated by perpendicular ice-cliffs of considerable height. Pieces were continually breaking off, with a loud explosion, and floating out to sea.

"The inner parts of the country were not less savage and horrible. The wild rocks raised their lofty summits till they were lost in the clouds, and the valleys lay covered with everlasting snow. Not a tree was to be seen, nor a shrub even big enough to make a tooth-pick. The only vegetation we met with was a coarse strong-bladed grass, growing in tufts, wild burnet, and a plant like moss, which sprang from the rocks." Seals were numerous. Several flocks of large penguins were seen. The oceanic birds were albatrosses, common gulls, terns, shags, divers, &c. The land-birds were a few small larks. No quadruped was seen. Variation 11½° E.

Cooper's Isle, at the S.E. end of Georgia, is a rock of considerable height, about five miles in circuit, and one mile from the main. At this isle the main coast takes a S.W. direction, for the space of four or five leagues, to the point named Cape Disappointment. Off that are three small isles, the southernmost of which is green, low, and flat, and lies one league from the cape.

"Who would have thought, (asks Captain Cook,) that an island of no greater extent than this, situated between the latitude of 54° and 55°, should, in the very height of summer, be, in a manner, wholely covered, many fathoms deep, with frozen snow, but more especially the S.W. coast? The very sides and craggy summits of the lofty mountains were cased with snow and ice; but the quantity which lay in the valleys is incredible; and, at the bottom of the bays, the coast was terminated by a wall of ice of considerable height."

"The island seems to abound with bays and harbours, the N.E. coast especially, but the vast quantity of ice must render them inaccessible in the greatest part of the year; or, at least, it must be dangerous lying in them, on account of the breaking up of the ice-cliffs. It is remarkable that we did not see a river, or stream of fresh water, on the whole coast. I think it highly probable that there are no perennial springs in the country; and that the interior parts, as being much elevated, never enjoy heat enough to melt the snow in such quantities as to produce a river or stream of water. The coast alone receives warmth sufficient to melt the snow, and this only on the N.E. side; for the other, besides being exposed to the cold south winds, is, in a degree, deprived of the sun's rays by the uncommon height of the mountains."

Clerke's Rocks are three or four rocky islets, which were subsequently seen at the distance of two or three miles. Vast numbers of birds, especially shags, were about them.

27. SANDWICH LAND.—Mr. Pinkerton says, "These lands may be styled the Southern Throne of Winter, being a mass of black rocks, covered with ice and snow." They were discovered by Captain Cook, in 1775, on proceeding to the eastward from South-Georgia. From the latitude of 59° 30′ S., longitude 29° 24′ W., the ship stood to the N.E., with a fresh breeze at N.N.W., and passed one of the largest ice-islands seen in the voyage, with several smaller. The weather was foggy with sleet; and, with the wind N. by W., she stood to N.E. over a sea strewed with ice.

"At half an hour past six next morning, as we were standing N.N.E., with the wind at west, the fog very fortunately clearing away a little, we discovered land a-head, three or four miles distant. On this we hauled the wind to the north; but finding that we could not weather the land on this tack, we soon after tacked in 175 fathoms water, three miles from the shore, and about half a league from some breakers. The weather then cleared up a little more, and gave us a tolerable good sight of the land. That which we had fallen in with proved to be three rocky islets of considerable height. The outermost terminated in a lofty peak like a sugar-loaf, and obtained the name of Freeze-land Peak, after the man who first discovered it. Behind this peak, that is, to the east of it, appeared an elevated coast, whose lofty snow-clad summits were seen above the clouds. It extended from N. by E. to E.S.E., and I called it Cape Bristol, in honour of the noble family of Hervey. At the same time another elevated coast appeared in sight, bearing S.W. by S., and at noon it extended from S.E. to S.S.W., from four to eight leagues distant; at this time the observed latitude was 59° 13½′ S., longitude 27° 45′ W. I called this land *Southern Thulé*, because it is the most southern land that has yet been discovered. It shows a surface of vast height, and is every where covered with snow. Some thought they saw land in the space between Thulé and Cape Bristol. It is more than probable that these two lands are connected, and that this space is a deep bay, which I called Forster's Bay.

"A

"At one o'clock, finding that we could not weather Thulé, we tacked and stood to the north; and, at four, Freezeland Peak bore east, distant three or four leagues. Soon after, it fell little wind, and we were left to the mercy of a great westerly swell, which set right upon the shore. We sounded, but a line of 200 fathoms found no bottom. At eight o'clock, the weather, which had been very hazy, clearing up, we saw Cape Bristol bearing E.S.E., and terminating in a point to the north, beyond which we could see no land. This discovery relieved us from the fear of being carried by the swell on the most horrible coast in the world, and we continued to stand to the north."

In this manner the other points were discovered; but the cliffs alone was all which was to be seen like land.

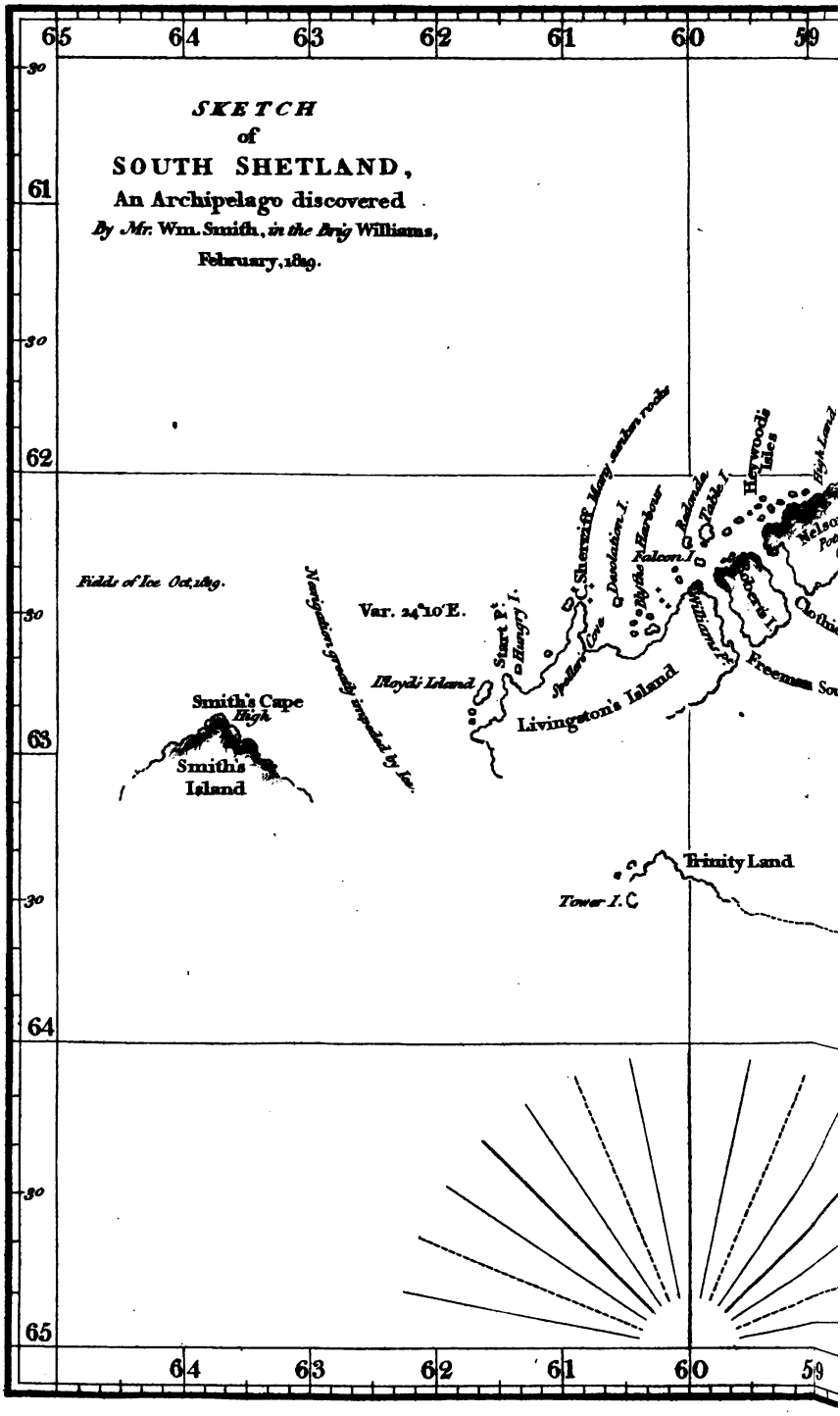
On the 2d of February, the Candlemas Isles were seen. They appeared to be of no great extent, but of considerable height, and covered with snow. A small rock was seen between them, and perhaps there may be more; for the weather was so hazy that the sight of them was soon lost. At noon on the 3d, the ship was in latitude 56° 44′ S. longitude 25° 33′ W., and was attempting to stand to the south, but a shift of wind made it necessary to tack, and proceed to the eastward. On this course several ice-islands and some loose ice were met with.

In closing his remarks on these lands, Captain Cook adds, "I concluded that what we had seen, which I named Sandwich Land, was either a group of islands, or else a point of the continent. For I firmly believe that there is a tract of land near the pole, which is the source of most of the ice that is spread over this vast Southern Ocean. I also think it probable, that it extends farthest to the north opposite the Southern Atlantic and Indian Oceans; because ice was always found by us farther to the north in these oceans than any where else, which I judge could not be if there were not land to the south; I mean a land of considerable extent."

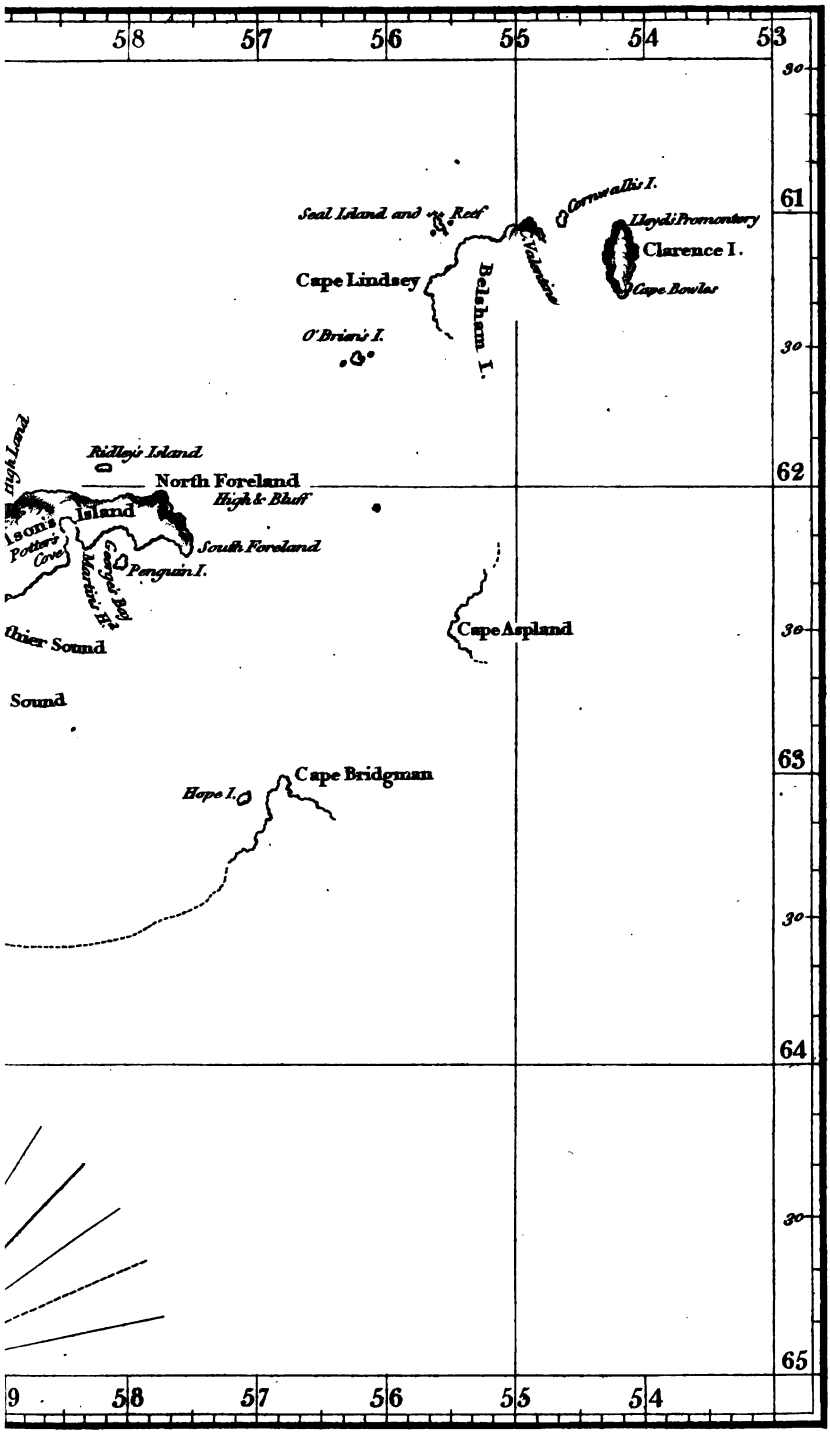
28. SOUTH-SHETLAND.—Captain Cook's concluding remark, given in the preceding note, has been verified, in some measure, by the discovery of the archipelago now called SOUTH-SHETLAND. For the first notices of this discovery, the world is indebted to Mr. William Smith, commander of the brig Williams, of Blythe, by whom the land was first seen in the month of February, 1819. The Williams was, at this time, on a voyage from Buenos Ayres to Valparaiso, and stretching far to the south. On the 19th, land or ice was seen in latitude 62° 40′, and near the longitude 60° W., then bearing S.E. by S. about two leagues. Hard gales, with flying showers of snow, and fields of ice, a combination of adverse circumstances, prevented, at this time, an exploration of the coast; and, on the brig's return to the River Plata, in the month of May, similar circumstances prevented any farther discovery: but, on a subsequent voyage from Monte-Video to Valparaiso, in October of the same year, the Williams again made the land. Captain Smith, in his journal, says, "I, to my great satisfaction, discovered land on the 15th of October, at six *p.m.* in latitude 62° 30′, and longitude 60° W., by chronometer, bearing distance about three leagues; hazy weather; bore up and sailed towards it; at four miles distant sounded in 40 fathoms, fine black sand; an island bearing E. by S. At S.E. by E. bearing, sounded in 60 fathoms, same bottom; hauled off during the night to the northward; at day-light stood in for the land again, at three leagues distance. From the body of the islands sounded again, 95 fathoms, fine sand and oaze; at eight, weather clear and pleasant, saw the main land bearing S.S.E., distance from the islands about three leagues. Having ran as far as the cape, we found the land trend off to the N.E. Coasting to the eastward, and sounding, found it similar to the former, fine sand. The point called North Foreland bearing E. ½ S., hauled in for it, got the island to bear N.W. distance half a league. Soundings regular from 20 to 35 fathoms, good bottom, sand and gravel. Finding the weather favourable, we down boat, and succeeded in landing; found it barren, and covered with snow. Seals in abundance.

"The boat having returned, which, when secured, made sail off shore for the ensuing night; in the morning altered the course so as to keep the land to the southward in view; at eleven *a.m.* the North Foreland bore S.E. by E five leagues. The land then took a south-easterly direction, varying to the eastward; weather thick and squally, with snow. I thought proper, having property on board, and perhaps deviating from the assurance, to haul off to the westward on my intended voyage. Strong variable winds. Made Cape Williams; could perceive some high land to the westward of the Cape, and stretching in a S.W. direction. The weather becoming thick and squally, we made sail to the westward, having sailed 150 miles to W.S.W. The weather moderating, saw another head-land bearing by observation E.N.E., distance ten leagues; very high.

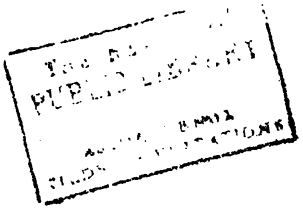
Observed



Published by R.H.Laurie N.° 53.Fleet



et Street, London, 22nd. July, 1822.



Observed in latitude 62° 53′ S., and longitude, by chronometer, 63° 40′ W. of Greenwich; named this Smith's Cape. Found the land to extend from the cape in a southerly direction. Shaped my course for Valparaiso, where I arrived on the 24th November, after a passage of sixty days from Monte Video."

The extent of land since explored is shown by the accompanying Chart; and additional information has been communicated by Captain Walker, of the ship John, of London. This vessel, in 1821, arrived from South-Shetland, in 98 days, with 12,000 sealskins, and has since returned for another cargo. The John was blown off in a gale of wind, and lost two anchors and a cable: the bottom being very rocky, other vessels have met with similar misfortune.

The islands at present known extend from 61° to 63½° of south latitude, and land has been seen to the southward as far as the eye can reach. Captain Cook's description of the Isle Georgia well applies to South-Shetland. The country already explored consists of numerous islands, without a vestige of vegetation. A species of moss only is found upon the rocks near the shore; eternal snows covering the more remote parts, which are mountainous. Nature in these regions assumes the most sterile and forbidding features; the thermometer was at no time below the freezing point; but the melting snows near the shore so completely saturate the soil, as to check all vegetation. A species of coal was found in abundance, which burnt very well, thus affording the means, if wanted, of replenishing the fuel. The rise and fall of the tide is about twelve feet. Shrimps and penguins are beyond all conception numerous. The islands, headlands, &c. have been named, and the observations ascertaining the latitude and longitude, from repeated experiments, found true. Part of an anchor-stock, evidently Spanish, being bolted with copper, and bearing certain marks, was found on shore, and is presumed to be the only vestige now remaining of a 74-gun ship, of that nation, which sailed from Spain, bound to Lima, in 1819, and has not since been heard of.

Several Fredonian, or United States', vessels have visited South-Shetland; and an American account states that some of the harbours are very good, vessels in them being land-locked. Of the first three months of the year 1821, the mildest experienced there was March; but the seals had mostly retired to the water. A solitary spot or two of something like grass were the only marks of vegetation. No field-ice was seen, but innumerable islands were floating about. The flesh of the young seals was often eaten, and was not disagreeable. The remains of the seals were generally left on the beach, after the skins were taken off; but, if convenient, probably much oil might be made.

Captain Dan. W. Clark, of the ship Hersilia, (an American,) reports, that he penetrated to the sixty-sixth degree of latitude, where he observed lands stretching farther to the south, the extremities of which he could not ascertain. The whole, even in summer, was blocked up with snow and ice, except in particular places frequented by seals.

The Russian frigate, Wattack, accompanied by a sloop of war, returned to Petersburg, from a voyage of discovery, in 1821. The periodical journals have reported that these ships have circumnavigated Sandwich Land, and discovered at the north part of it three small islands. It is added, "They have also surveyed the south part of South-Shetland, in latitude 69° and some odd minutes S., and have seen an island at some distance from it, or a large cape or head-land; but, on account of the ice, they could not approach nearer to it than 40 miles."

An early account of South-Shetland stated that sperm-whales were seen about the coasts; and it cannot be questioned that such whales may be occasionally here; but we have the authority of Captain Laurence Frazier for stating that, the whales hereabout are mostly finbacks.

4. *The* WESTERN COASTS *of* SOUTH-AMERICA, *from* CAPE HORN *to* PANAMA; *with the adjacent* ISLANDS, *and* DESCRIPTIONS, *&c.*

	LATITUDE.				LONGITUDE.				AUTHORITIES.
	°	′	″		°	′	″		
CAPE HORN [1]	55	58	30	S.	67	21	30	W.	
Isles of Diego Ramirez [2]	56	27	30		68	39	30	—	
Isles of S. Ildefonso [3]	55	51	0	—	69	17	30	—	
York Minster, Christmas Sound	55	26	0	—	70	8	0	—	
Gilbert's Isles *(middle)*	55	13	30	—	70	56	0	—	
Cape Desolation	54	55	0	—	71	43	0	—	
Cape Negro, or Black Cape	54	31	0	—	73	17	0	—	
Cape Glocester	54	7	0	—	73	36	0	—	
Cape Pilares	52	46	0	—	74	56	0	—	
The Evangelists	52	34	0	—	75	7	0	—	
Cape Santa Lucia	51	25	0	—	75	31	0	—	
Cape St. Iago	50	54	0	—	75	32	0	—	
Cape Tres Puntas (Three Points)	49	47	0	—	75	48	0	—	
Isles of Guayaneco, *North Point*	47	32	0	—	75	5	0	—	
Cape Tres Montes	46	59	0	—	75	28	0	—	
Lemus Island, *North Pt.*	45	6	0	—	74	50	0	—	
Guaitecas Isles, *West Pt.*	44	25	0	—	74	5	0	—	
Huafo Island, *Middle*	44	1	0	—	74	41	0	—	
ST. CARLOS in Chiloe, *The Fort*	41	51	50	—	73	53	50	—	The Surveys of the Officers of the Spanish Marine, under Don Alexandro Malaspina, in and subsequent to the year 1790.
Point Quedal	41	5	0	—	74	8	0	—	
VALDIVIA, *Fort of S. Carlos*	39	50	7	—	73	34	35	—	
Isle de la Mocha, *Middle*	38	20	0	—	74	5	0	—	
Isle of Santa Maria, *N.W.Pt.*	37	1	0	—	73	41	0	—	
CIUDAD de la MOCHA, or City of Concepcion	36	49	10	—	73	7	0	—	
Talcahuano	36	42	32	—	73	8	20	—	
Rio de Ytata	35	57	30	—	72	54	0	—	
Shoals of Topocalma, *Middle*	33	56	0	—	71	58	0	—	
Island of Juan Fernandez [4]	33	40	0	—	78	58	30	—	
Masafuera, or Outer Island of Fernandez [5]	33	45	0	—	80	38	30	—	
CITY of ST. IAGO	33	26	30	—	70	44	0	—	
VALPARAISO, *Cast. del Rosario*	33	1	55	—	71	40	25	—	
Rio Limari, *Entrance*	30	45	0	—	71	52	0	—	
Punta de Lengua de Baca	30	16	30	—	71	46	0	—	
Port of Coquimbo, or La Serena	29	23	0	—	71	16	0	—	
Isle Canaveral	29	2	0	—	71	39	0	—	
Puerto del Huasco	28	26	0	—	71	14	0	—	
Morro de Copiapo	27	12	0	—	71	6	0	—	
Island of St. Ambrose [6]	26	20	0	—	79	48	0	—	
Island of St. Felix	26	16	0	—	80	3	0	—	
North Point of the Bay of Nostra Senora	25	12	0	—	70	48	0	—	

WESTERN COASTS OF SOUTH-AMERICA, &c. CONTINUED.

	LATITUDE.				LONGITUDE.				AUTHORITIES.
	°	′	″		°	′	″		
Morro Jorge	23	31	0	S.	70	34	0	W.	
Morro of Mexillones	23	3	0	—	70	27	0	—	
Cobija	22	28	30	—	70	6	0	—	
Morro of Tarapaca	20	17	0	—	70	17	0	—	
Punta de Pisagua	19	27	0	—	70	19	0	—	
ARICA	18	27	0	—	70	16	20	—	
Morro of Juan Diaz	18	7	0	—	70	33	0	—	
Ilo	17	36	0	—	71	10	0	—	
Puerto de Ilay	16	41	0	—	72	40	0	—	
Morro of Arequipa	16	30	0	—	73	1	0	—	
Morro of Atequipa	15	45	0	—	74	31	0	—	
Port of Caballos or Nasca	15	4	0	—	75	25	0	—	
Mesa (Table) of Donna Maria	14	42	30	—	75	40	0	—	
Island of Sangallan	13	50	0	—	76	23	0	—	
Pisco	13	44	0	—	76	10	0	—	
Canete	13	1	0	—	76	25	0	—	
Punta de Chilca	12	33	0	—	76	43	0	—	
Morro Solar	12	11	0	—	76	57	0	—	
Island of St. Lorenzo, *Middle*	12	5	0	—	77	7	0	—	
Callao, *Castle*	12	3	38	—	77	4	55	—	
CITY of LIMA	12	2	34	—	76	57	30	—	
The Hormigas, or Ants	11	56	0	—	77	48	0	—	
Isle Pescador	11	46	0	—	77	9	0	—	The Surveys of the Officers of the Spanish Marine, under Don Alexandro Malaspina, in and subsequent to the year 1790.
Punta de Huaura	11	19	0	—	77	28	0	—	
Patibilca, *Road*	10	51	0	—	77	32	0	—	
Rio Guarmey, *Entrance*	10	4	0	—	78	4	0	—	
Isla de Santa	9	1	30	—	78	33	0	—	
Morro de Chao	8	48	0	—	78	38	0	—	
Truxillo	8	7	0	—	78	54	0	—	
La Campana	7	57	30	—	79	0	0	—	
Punta de Malabrigo	7	45	0	—	79	19	0	—	
Punta de Pacasmayo	7	27	0	—	79	28	0	—	
Morro de Cherrepe	7	10	0	—	79	29	0	—	
Morro de Eten	6	54	30	—	79	46	0	—	
Punta de la Aguja	5	59	0	—	81	4	0	—	
Rio de Piura, *Entrance*	5	33	0	—	80	48	0	—	
San Miguel de Piura	5	11	0	—	80	31	0	—	
Punta de Payta	5	3	0	—	81	2	0	—	
Punta de Parina	4	43	0	—	81	11	0	—	
Cape Blanco	4	19	0	—	81	7	0	—	
Punta de los Picos	3	43	0	—	80	35	0	—	
Punta Salinas, Isle of Puna	3	4	0	—	80	7	0	—	
Punta de Arenas, or Sandy Point	2	48	0	—	80	6	30	—	
GUAYAQUIL	2	11	21	—	79	43	0	—	
Punta de Santa Elena	2	11	0	—	80	48	0	—	
Isle of Salango	1	38	0	—	80	40	0	—	
Isla de la Plata	1	18	30	—	80	56	0	—	
Cape St. Lorenzo	1	4	0	—	80	43	0	—	
Chimborazo, *Summit*	1	29	0	—	78	38	0	—	
CITY of QUITO	0	13	17	—	78	21	30	—	
Manta	0	58	0	—	80	33	0	—	

WESTERN COASTS OF SOUTH-AMERICA, &c. CONTINUED.

	LATITUDE.				LONGITUDE.				AUTHORITIES.
	°	′	″		°	′	″		
Punta de Charapoto	0	46	0	S.	80	20	0	W.	
Cape Passado	0	26	0	S.	80	20	0	—	
Cape St Francisco	0	39	0	N.	79	52	0	—	
Punta de la Galera	0	48	0	N.	79	51	0	—	
Esmeraldas	0	54	0	—	79	23	0	—	
La Tola	1	10	0	—	78	55	0	—	
Punta de Mangles	1	37	0	—	78	51	0	—	
Isle of Tumaco	1	46	30	—	78	38	0	—	
Isle del Gallo	1	57	0	—	78	31	0	—	
Punta de Guascama	2	29	0	—	78	21	0	—	
Isle Gorgona	2	53	0	—	78	6	0	—	
Bay of S. Buenaventura	3	50	0	—	76	55	0	—	
Magdalena Bay	3	56	0	—	77	5	0	—	
Punta de Chirambira	4	14	0	—	77	15	0	—	
Cerro de Baudo	4	49	0	—	76	56	0	—	The Surveys of the Officers of the Spanish Marine, under Don Alexandro Malaspina, in and subsequent to the year 1790, with the Survey of Panama, &c. published at Madrid, 1817.
Cape Corrientes	5	34	0	—	77	16	0	—	
Punta de S. Francisco Solano	6	50	0	—	77	45	0	—	
Morro Quemado	7	18	0	—	77	50	0	—	
Puerto de Penas	7	32	0	—	77	52	0	—	
Punta de Garachiné	8	6	30	—	78	10	15	—	
Isla del Rey, Cocos or South Point	8	13	0	—	78	40	0	—	
City of Panama	8	57	30	—	79	18	30	—	
Punta de Chame	8	38	45	—	79	28	30	—	
Punta Mala	7	24	0	—	79	55	0	—	
Punta de Mariato	7	14	0	—	80	38	0	—	
Isle Quicara, *S. Islet*	7	10	0	—	81	40	0	—	
Puerto de Damas, in the Island of Quibo	7	26	0	—	81	31	0	—	
Punta de Burica	8	3	0	—	82	51	0	—	
ISLANDS.									
Isle Malpelo [7]	3	59	0	—	81	11	0	—	
Isle Cocos [8]	5	35	12	—	86	54	26	—	Captain Vancouver, 1795.
The Galapagos [9]									
Chatham Isle [10] *E. Pt.*	0	49	0	S.	89	7	0	—	Captains Geo. Vancouver and Jas. Colnett, of the British Navy.
Hood's Isle [11] *S.E. end*	1	28	0	—	89	45	0	—	
Charles Isle [12] *South Pt*	1	30	0	—	90	33	0	—	
Barrington [13] *S.W. Pt.*	1	0	0	—	90	16	0	—	
James Isle [14] *Road on the west side*	0	12	0	—	90	42	0	—	
Abington I. [15] *N.E. Pt.*	0	42	0	N.	90	47	0	—	
Albemarle Isle [16]									
Christopher's Pt.	0	50	0	S.	91	26	0	—	
Cape Berkeley	0	2	0	N.	91	30	0	—	
Narborough Island [17]									
Cape Douglas	0	17	0	S.	91	33	0	—	
Redondo	0	13	0	N.	91	31	0	—	
Wenman's Isle [18]	1	22	30	N.	91	44	0	—	
Culpeper's Isle [18]	1	41	30	N.	91	56	0	—	

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1. CAPE HORN.—This is the southern point, or headland, of a group called Hermite Islands. A representation of it is given on the Chart. The name of the isles has been imparted from that of Admiral Hermite, commander of the Dutch fleet, who visited this coast in 1624. Captain Cook, in the description of his passage, in Dec. 1774, brought Cape Horn to bear E. by S., and says, it is known, at a distance, by a high round hill over it. A point to the N.W. shows a surface not unlike this; but their situation alone will always distinguish the one from the other. Captain Cook gave the situation of the cape as 55° 58′, and longitude 68° 13, from his observations made in 1769; but he adds that his subsequent observations placed it in 67° 19′; which, it may be seen, varies very little from the position given in the Table. On the N.W. side of the cape are two peaked rocks, like sugar-loaves, lying N.W. by N. and S.E. by S. by compass, from each other. Some other straggling low rocks lie west of the cape, and one south of it, but they are all near the shore.

In the direction of E.N.E., three leagues from Cape Horn, is Cape Enganno, the *Mistaken Cape* of Captain Cook; it is a rocky point, and the southern point of the easternmost of Hermite Isles. Captain Cook has said, "In some charts Cape Horn is laid down as belonging to a small island. This was neither confirmed nor can it be contradicted by us; for several breakers appeared on the coast, both to the east and west of it; and the hazy weather rendered every object indistinct. The summits of some of the hills were rocky, but the sides and valleys seemed covered with a green turf, and wooded in tufts.

2. ISLES OF DIEGO RAMIREZ.—These are a cluster of great barren rocks, fourteen leagues south-westward from Hermite Islands. The channel between is entirely clear. Captain Colnett says, that the western isle, which is the highest, is surrounded with small islets. The birds hereabout resembled the dun crow, common in Hampshire, in the winter, and which had been seen daily from the latitude of the Falkland Islands.

3. ISLES OF ST. ILDEFONSO.—A group of islets and rocks above water, within which Captain Cook passed to the eastward, in December, 1774. Their distance from the nearest point of the main is five leagues.

4. The ISLAND OF JUAN FERNANDEZ.—This island is about four leagues long, and hardly two wide; of an irregular shape. It is said to owe its name to a Spaniard, who formerly procured a grant of it, and began a settlement, but afterwards abandoned it. The only safe anchoring-place is on the north side, in the Road of St. Juan Bautista, of which a particular plan is given on the Chart. This is the Cumberland Bay of the English navigators. The northern part of the island is composed of high craggy hills, many of them inaccessible, though generally covered with trees.

The southern, or rather the S.W., part of the island is widely different from the rest, being dry, stony, and destitute of trees, but very flat and low, compared with the hills on the northern part. This part is never frequented by ships, being surrounded by a steep shore, and having little or no water.

The trees, of which the woods on the northern side of the island are composed, are, most of them, aromatics, and of many different sorts. There are none of a size to yield any considerable timber, excepting the myrtle-trees, which are the largest on the island. The pimento and cabbage-tree grow here. Water-cresses and purslane abound, with turnips and Sicilian radishes.

Lieut. Shillibeer, in his interesting narrative of the Briton's voyage to Pitcairn's Island, 1814, says that, although we did not find Juan Fernandez that earthly paradise described by Lord Anson, it is exceedingly beautiful, and capable of every improvement. At the time of the Briton's visit, the island had become the place of exile for the patriots of Chili: a glorious change has since taken place, and their sufferings have ceased.

Lieut. Shillibeer represents the anchorage of St. Juan as neither commodious nor safe. Near the beach, amongst the various fruit-trees, is a little village, commanded by a small battery, and attended by about 100 soldiers. He adds, the whole of Juan Fernandez is excessively mountainous, and romantically picturesque; possessing several crystalline streams of water, and a soil of great fertility.

"The earth of this island is, in many places, of the colour of a bright red ochre, but not,

not, as is asserted in the voyage of Lord Anson, equal to or exceeding in brilliancy the colour of vermilion. It is very fine, and when ground with oil is a very good pigment. The seeds left by Lord Anson have been every where productive; and the peach, the apricot, and nectarine, with plums, &c. grow spontaneously in the woods, with other trees. There is also abundance of wild turnips, parsley, oats, and the long grass common to European countries.

"In ascending the mountains, it is necessary to use the greatest care, for the looseness of the soil gives to the trees so little holding, that, in many places, the weight of a man would be sufficient to drag one up by the roots, and precipitate it down the rocks; with it, if he be not on his guard, he may himself be hurled. This circumstance renders an excursion of this kind extremely hazardous; and, I doubt not, intimidates many from undertaking it, and consequently precludes them the pleasure of contemplating the most romantic, strange, and incomprehensible, scenery which can be found in the formation of the universe. The box and myrtle trees are very conspicuous. In the mountains are a great number of goats, but difficult to be taken. There are also many wild bullocks. The common pigeon of England, become wild, is found in great abundance. There are no venomous reptiles. At certain periods of the year, this island is visited by the sea-lion, which, according to Lord Anson, is so immensely large as to produce several hogsheads of blood, as well as much oil and blubber. They are considered as a species of the seal, which, at times, are found here in great plenty; but, during our stay at the island, I did not see any. The number of dolphins and flying-fish we saw was really astonishing; and, of the latter, some were taken measuring twenty-six inches. Fish of various other sorts are also very plentiful. The soldiers, in 1814, were miserable thieves, and it may still be unsafe to remain on shore during the night.

The temperature of Juan Fernandez is by no means agreeable, though not unhealthy, and it changes three times in a day. In the morning it is a thick fog, with rain; in the middle of the day exceedingly warm; and at night the wind is strong and piercingly cold.

In March, 1795, Captain Vancouver, in the Discovery, passed to the southward of the island, and he assigns to the S.W. point the latitude 33° 45′ S. longitude, by his chronometers, &c. 78° 51′ 13″ W. He observes, that its aspect in this point of view is not very inviting. The point terminates in a high steep bluff. Its eastern part seemed to be less elevated, and the whole composed a group of broken irregular hills; forming altogether as rude and grotesque a scene as the imagination can well fancy. Variation of the compass 13° E.

5. MASAFUERA, or the outer isle of Juan Fernandez. This island is situated to the west of Juan Fernandez, as shown in the Table. It is very high and mountainous, and, at a distance, appears like one hill or rock. It is of a triangular form. The south part is much the highest: on the north are several spots of clear ground, which, perhaps, might admit of cultivation. Mr. Robins, in his account of Lord Anson's voyage, mentions only one part of this island as affording anchorage, which is on the north side, and in deep water; but Captain Carteret says, he saw no part where there was not anchorage: on the west side, in particular, there is an anchorage at about a mile from the shore, in 20 fathoms, and, at about two miles, in 40 and 45 fathoms, with a fine black sand at the bottom. There is plenty of wood and water around the island, but they are not to be procured without much difficulty: a great quantity of stones, and large fragments of rock have fallen from the high land, all round the island, and upon these breaks such a surf, that a boat cannot safely come within a cable's length of the shore. Captain Carteret further says, there is no landing here but by swimming from the boat, and then mooring without the rocks; nor is there any method of getting off the wood and water, but by hauling them to the boat with ropes: there are, however, many places where it would be easy to make a commodious landing, by building a wharf, which it would be worth while even for a single ship to do, if she was to continue any time at the island. Masafuera is a very good place for refreshment, especially in the summer season: all round the island there is such plenty of fish, that a boat may, with three hooks and lines, catch as much as will serve a hundred people; among others are coal-fish, cavallies, cod, hallibut, king-fishers, and cray-fish: seals are, at times, numerous.

Captain Vancouver passed this island, at a distance, to the southward, 20th March, 1795; and, from his observations, gives the position of its centre as 33° 49′ S. and 80° 34′ W.

6. ISLES

5. ISLES OF St. FELIX and St. AMBROSE.—We have given the situation of these isles as represented by the Spanish surveyors, by whom observations for the longitude were made; but it should be noted that they are placed by Captain Colnett considerably more to the east, and a little more to the north: that is, he has given the eastern island in 26° 18′ S. and 79° 8½′ W.; the western in 26° 14′ S. and 79° 24′ E. It is presumed that this statement is incorrect.

Of these isles, Captain Colnett says, "On the 20th of May, 1793, we saw one of the isles of St. Felix and St. Ambrose, and soon after the other. By four in the afternoon we were within six or seven miles of the easternmost; when, accompanied by the whaling-master, I made an attempt to land, as well as to find an anchoring ground. The isle (St. Ambrose) proved to be a rugged, perpendicular, barren rock, 60 or 70 fathoms in height; and, in its craggy breaks and shelvings, seals had found a resting-place. There was, indeed, an appearance of verdure on its summit, which induced me to conjecture that it is, by some means or other, supplied with moisture. But night coming on, and it beginning to sniffle and rain, with the wind far to the north, and no place to shelter the boat, or where we could land on the north side, we returned on board. The south side presents the same inhospitable aspect as the north. By sun-set (next day) we got well up with the western isle; and, being moon-light, I sent the chief-mate, in one of the boats, to fish during the night, as well as take soundings round the isle for the best anchoring place; and in the morning to make attempt to land. At noon on the following day, he returned with plenty of fish of the species of cod and bream, weighing from four to six pounds each; and informed me that he had taken soundings round the isle, and that the only bay was on the south side, but that he could not find any bottom except close to the shore, which was at 18 fathoms depth, and rocky. That he had also sounded along the north side, to eight fathoms, within half a mile of the shore, and found a sandy bottom; but beyond that could find no ground at 80 fathoms: and that the late gale had occasioned so great a surf as to render it impossible to land. He added, that the island appeared to be covered with seals. I had by this time surrounded the isle with the ship, and frequently tried for soundings, but no bottom could be found with 170 fathoms of line, at the distance of from four to six miles from the shore.

The whaling-master and second mate attempted to land in the evening, the swell having considerably abated, but they could not accomplish their design. They set out again at four o'clock the next morning, the 22d, with a similar design, and having, with great risk and difficulty, effected a landing, they traversed the isle, which produced nothing but a plant resembling the common nettle, of a salt taste, and a disagreeable odour. They could find no fresh water, and the soil was mere sand, from one to six inches deep, on a solid rock, and washed into furrows as it appeared by heavy rains. No land-bird, quadruped, or even insect, except flies, were seen on the island; but great numbers of birds' nests containing addled eggs; nor was there any kind of shell-fish.

Of the danger of getting from this island, we had a very melancholy experience, as our people were upset several times before they got from the surf, and one of our best seamen was unfortunately killed, having his back broken by the jolly-boat falling upon him.

The only landing-place is on a sandy beach on the north side of the isle; and the tide ebbed on it, while they were on shore, between six and seven feet, and the ebb and flood runs to the northward and eastward. At the time they landed, which was at six in the morning, it was near high-water, and when they got off, at two o'clock *p. m.*, it was low-water. Neither of these isles is more than five or six miles in circumference, and they are distant from each other four leagues and a half. The easternmost isle, appearing to be inaccessible, can never be of much use, except as a place for catching fish, or taking seals; but the other isle might be made to answer as a place of rendezvous in war or peace. It contains a space where tents might be pitched, and the sick accommodated, if the want of wood, water, and vegetables, could by any means be surmounted. As to the first, a hull or two of a prize would afford a sufficient supply; and as for the second, a still might be provided to distill salt water; and a small quantity of soil would be sufficient to raise salad-herbs.

When south of the western isle, the whole has the appearance of a double-headed shot; but the eastern hummock is separated from it by a very narrow reef, which divides it as it were into two isles, the lowest land commencing from the reef, and joining the hummock to the west. There is also a remarkable small rock off the N.W. end, which, in most points of view, shows itself like a ship under sail."

Captain

Captain Colnett's chart exhibits several high rocks extending eastward from the eastern isle, to which he has given the name of *Eyre Rocks*. The outer one is two miles and a half from St. Ambrose.

7. MALPELO.—Captain Colnett has described Malpelo as a barren, high, and perpendicular rock, which may be seen, in clear weather, at the distance of 20 leagues. A small quantity of green moss, and a few dwarf bushes, which grow in its cracks or gullies, afford the only verdure that it possesses. It is surrounded with islets, and the whole may extend about nine or ten miles from north to south. The centre of Malpelo bears a resemblance, in several points of view, to the crown of a head; and its being barren accounts for the name which the Spaniards have bestowed upon it. The isle seems to be surrounded by a strong current, having the appearance of breakers. The current was found to set N.E. by E. by compass, two miles and a half in the hour, 24th July, 1793. Captain Colnett calculated the latitude of Malpelo to be 4° 20′, and its longitude 80° 45′; but as the position given by the Spanish officers is from actual observations made at the spot, we presume that this must be incorrect.

8. ISLAND OF COCOS.—Captain Colnett describes his route from Malpelo to the Isle Cocos and that island as follows. "From the Isle of Malpelo, we stretched away to the westward for the Isle Cocos, which we made on the 25th, at midnight (July, 1793.) The whole of the passage thither we had threatening, squally, and showery weather, with incessant and heavy rain, and, at intervals, thunder and lightning: we had a short irregular head-sea, with winds from S. S.W. to W.S.W. Porpoises accompanied us in great numbers; and, as we approached the isle Cocos, there appeared large flights of boobies, egg-birds, and man-of-war hawks. We also saw a fin-back whale and two grampusses, with innumerable bonettas, dolphins, and albicores.

At break of day the weather was thick and rainy; and, though the land was covered by the fog, we discovered several islands that lay around it. When we had got within four or five miles of the N,E. end, I sent a boat away with the chief mate, to search for an anchoring place; though, at times, I could not see the jib-boom end, so thick and frequent were the showers. At noon the boat returned, having been in a bay near the north end of the isle, which was small, and open to the north-east, with great depth of water, within three quarters of a mile of the shore. I stood in to examine it, as I could not have ventured to anchor in deep water, with a crippled windlass, that occupied two hours, in a start calm, to heave in 19 fathoms of cable; besides, the tide, which I found afterwards setting on both points of the bay, was so strong, that, if the boats had not been very ready, the ship must have gone on shore; and if, in such a situation, there had been an anchor to heave up, it must have been cut away. I, therefore, ordered the boats to examine more to the westward, and they accordingly discovered Mr. Wafer's Harbour.

The land of this island is high; but that on the west side is the highest, and presents itself in the form of a round hill. The eastern side appears to be much broken, the land sloping, in most parts, abruptly to the sea; but in others presenting bold and perpendicular cliffs. There are also many surrounding islets, whose tops are generally covered with trees; but the soil, nevertheless, is shallow, and the lower part is as if it were a ring of white barren rock down to the surface of the sea.

The main island does not appear to possess a spot where trees can grow, that is not covered with them, or some kind of bushy plant; which, when blended with the barrenness of intervening rocks, produces a picturesque effect; while the streams, that pour down from their various fountains to the sea, greatly heighten the beauty of the scene.

There are two anchoring-places; one, above noticed, a small bay within the N.E. end, on the north side; but the anchorage is in deep water, within three-quarters of a mile of the shore, whence the bottom deepens almost immediately to no soundings at 60 fathoms. It is also entirely open to the northerly winds: but as Captain Vancouver anchored here after I left it, a more exact description may be expected from the publication of his voyage. I found the prevailing wind to be to the southward and westward, but it often varied, and I had it frequently blowing strong from N.E. and N. The other bay or harbour (Wafer's) is three miles to the westward and southward of the north point, and is easily known by a small, rugged, and barren rock, about the size of a large boat, bearing west, from the body of the bay, about five or six miles; the bay also lies east and west; its greatest depth is not two miles, nor is it one in breadth; but I would not venture into it in a vessel of more than 200 tons. Its anchorage has from seven to fifty fathoms.

fathoms, and is nearly sheltered from all winds: this bay is also preferable to the one at the north point, because the shore of the first is steep, while that of the latter consists of a beautiful valley, and sandy beach, where coco-trees appear in greater numbers than I have seen in any other place. There is also a rivulet of water 18 or 20 feet in breadth, which is supplied from a basin, one mile distant, within land, in which our crew, to avoid the sharks, went and bathed. Although this bay is so small, it is very convenient, and as secure as those anchoring-places generally are, which are not entirely sheltered. Its principal inconvenience arises from the constant rains, as, out of the four days we were beating off it, it rained during three of them, in the offing; and sometimes with heavy storms of lightning and thunder. Those who were on shore experienced an equal continuance of the wet weather; and so thick was the rain, that, for eight hours together, we have not been able to see twice the length of the ship; but this may not be the case at all seasons. The woollen clothes of those who went on shore, which had been particularly moist from prespiration, and were hung on the bushes to dry, were soon fly-blown in the different parts that had stuck nearest to the body, and covered with maggots. Should a vessel touch here to recover her sick, or to water, or to wait any time, fire would remove the flies; and, as no tent would be sufficient to keep out the water, I would recommend the erection of a house, wood being in great plenty, and at hand, with coco-tree leaves in abundance to thatch it. I saw no plant, bush, or tree, but such as are quite familiar to my eye; they chiefly consisted of the mangrove, the coco-nut, and cotton-tree.

Fish were in great abundance, but would not take the bait; which we attributed to the great number of sharks off this island. Some of them followed the boat until the water left them almost dry. Those we caught were full of squid and cray-fish, as were the porpoises which we struck. These were innumerable, and we took them whenever we pleased. Eels are abundant and very large; we caught several of them among the rocks, as well as some toad-fish. Shell-fish were scarce, though we collected very large limpets of a new kind, and a few dead conchs. The latter were seen in great numbers on the beach, and mostly inhabited by the Diogenes crab. Common land-crabs were in great plenty, and sea-birds of every kind, common to tropical latitudes, in the Atlantic, were in great abundance here, particularly the St. Helena pigeon, and white-headed noddy. They all perched on trees, like land-birds, and, at a small distance, gave the tree on which they sat the appearance of being covered with white blossoms. Of the land-birds, we saw some which resembled the thrush and black-bird in shape, colour, and size; with a few herons, and a variety of smaller birds.

The tide must be an object of particular attention in anchoring at, or sailing from, this place; it ebbs and flows from 16 to 18 feet perpendicular; and, from the observations made by myself and the officers in the boats, it appeared to flow seven, and ebb five, hours; the ebb setting to the eastward, and the flood to the westward: but the flood runs not near so strongly as the ebb, which runs at the rate of four or five knots an hour. The time of weighing and anchoring must also be attended to, as both sets are right on the points of the bay; and, if its rise and fall are regular, it will be high water, at full and change, at four *a.m.*

The rats, which are numerous in this island, exactly resemble the common rat in England, and were, probably, left here by the Bucaniers. As we found their nests in the top of most of the trees which were cut down, I am disposed to conjecture, that this is a very humid spot at all times and seasons.

I was much disappointed at not being able to procure turtles; for we saw but two, and they escaped us. That there should be so few turtles here, must be owing to the great number of sharks that infest the coast, or the chilling rains, which destroy the eggs when laid on shore, which in itself is very favourable to their becoming productive. There is as fine and soft a beach as I ever saw, and there are few vessels but might lay aground on it, and repair and clean their bottoms. Whoever may hereafter wish to anchor in this bay, will do well to come round the south and west points of the isle, and hug the south point of the bay close on board; and, when in the bay, to moor head and stern.

We were much wearied during the four days we passed off this island, and prepared to quit it. We, therefore, took on board 2000 coco-nuts; and, in return, left on shore, in the north bay, a boar and sow, with a male and female goat. In the other bay, we sowed garden-seeds of every kind, for the benefit and comfort of those who might come after us. I also left a bottle tied to a tree containing a letter. Over it I ordered a board, with a suitable inscription, which Captain Vancouver thought proper to remove, when

when he anchored at this isle some time after me. The letter gave only an account of my arrival and departure. Having made the necessary arrangements, we set sail for the northward.

The Isle Cocos lies in a N.E. and S.W. direction; its greatest length does not exceed twelve miles, nor breadth four miles.

It may be proper to remark, in this place, that, in all parts of the East-Indies, a vinegar is made of the milk of the coco-nut, equal to our strong white wine vinegar. I am unacquainted with the particular process, but am disposed to think it at once short and simple. The old coco-nut, left in water for two hours, and then strained, produces a liquid, in colour and taste, little inferior, if not equal, to skimmed milk, which removed all scorbutic complaints from among the crew, and preserved them in health for many months."

The following Description of Cocos is from Captain Vancouver. It is extraordinary that he should represent the island as only four miles and a half in length, while Captain Colnett gives that length as twelve miles; and this is the more singular, because each has given a plan of the island, and those plans, widely differing from each other, nearly correspond with the respective descriptions. We presume that Captain Colnett must be nearest to the truth, and that Captain Vancouver's scale of MILES *should express* LEAGUES.

Captain Vancouver says, according to the sketch made by Mr. Whidbey, the island of Cocos is about four leagues in circuit, lying in a N.E. and S.W. direction; it is about four miles long, and two miles broad, with several detached rocks and islets scattered about its shores. Those lying off its S.W. part extend to the greatest distance, which is nearly two miles, but they cannot be considered as dangerous, because they are sufficiently high to be seen and avoided. The small bay, (Chatham Bay,) in which we anchored at the N.E. end of the island, is greatly to be preferred to the other westward of it, (Wafer's Bay,) for the small islet that lies off its N.W. point adds greatly to its protection from the wind and sea. The width of the bay, from point to point of the two islets that form each of its extremities, is about a mile, in a direction S. 52 E. and N. 52 W., and from this line its extent to the bottom of the bay is also about a mile; the soundings are regular from 12 to 50 fathoms, and vessels may ride very snugly within less than half a mile of the beach, in about twenty fathoms of water; but, in a less depth, the bottom did not appear to be so free from rocks. The western bay is more extensive and more exposed, and its soundings are neither so regular, nor is the bottom so good; but from the abundance and great variety of vegetable productions that grow close to the verge of high-water mark, in both bays, it should seem that neither of them are subject to very violent storms, or heavy seas. The climate was considered by us as temperate and salubrious; for although the thermometer was usually between 78° and 80°, we did not feel that oppressive heat which we had experienced farther to the northward; and notwithstanding that our people were greatly exposed to the heavy rains that fell while transacting our business on shore, yet not the least interruption from want of health took place, which in various other tropical islands frequently attends the execution of similar services.

This island cannot be considered as having a pleasant appearance in any one point of view; for, although its inland surface is much diversified by hills and valleys, yet the only low land of any extent that we were certain it possesses, is in the bottom of the two bays. Every other part of the shore seemed to be composed of steep broken precipices of rock, of which substance the interior of the island was apparently composed, as the naked cliffs were frequently seen protruding their barren sides through the thicket, which otherwise covered the surface of the island. This thicket, so far as we were enabled to ascertain, was chiefly composed of a great variety of trees, of a moderate size, with an impenetrable under-wood of the vine or supple-jack kind, which opposed any excursion into the country; some attempts were, I believe, made to penetrate thither by the water-course; but this, from rocky precipices and other obstructions, was found to be equally impracticable: our knowledge of its productions must consequently be confined to our observations on the small margin between the woods and the sea-shore, the only part that was accessible to us. In respect of its future utility, the first object of consideration to maritime people is the abundant supply of water that it affords. This abounds in every part of the island, and it is to be easily procured at the stations to which vessels can resort. From its purity and limpid appearance, and from its being destitute of any colour or unpleasant taste, either from dead leaves or other putrid or rotten matter, though very heavy rains had fallen during the time we

had

had been at anchor there, it may reasonably be inferred that the larger streams of water have a more remote and permanent source than the accidental showers at this season of the year may descend upon the island. The soil in the immediate neighbourhood of the streams that fall into each of the bays, is of a poor, loose, sandy, nature; but, at a little distance behind the beach, and in the fissures of the rocks, a rich black mould was observed, apparently capable of affording much vegetable nourishment, and this may also be the case in other parts of the island, although we had no power of ascertaining the fact. All its vegetable productions appeared to grow luxuriantly, and covered the island in one entire wilderness. On the rocky cliffs near the sea-side, whose uneven surface admitted the growth of vegetables, a coarse kind of grass is produced, that afforded an excellent retreat for the different kinds of sea-fowl, which resorted thither to roost and build their nests; or, more properly speaking, to lay their eggs, as they are at little pains to form a nest of any description. About these cliffs grew a very particular kind of tree, something like the cloth-plant of the South-Sea Islands, but much larger; some of these grow to the height of about 30 feet, are of a lightish coloured bark, free from branches to the top, which is somewhat bushy, and for that reason was called by us the Umbrella-tree. There were some few other trees, whose foliage strongly resembled that of the bread-fruit; but, as no one of them was in bearing near the beach, I was not able positively to determine their species. Many of the trees that composed the forest, especially in the interior and elevated parts of the island, seemed to be of considerable size, spreading out into large branches towards their tops; which, in point of height, greatly surpassed the others. I was inclined to believe that these trees were of the same sort with those from which we principally obtained our fuel, although near to the sea-side they did not grow so large as on the hills. The coco-nut trees, which grew not only on the sea-shore, but high up on the sides of the hills, were the only trees we saw that bore any fruit, although, in one of the rivulets, an unripe guava was picked up, which most probably had come from the interior country: in addition to these, we noticed an abundance of different sorts of fern, some of which produced a stem nearly six inches in diameter, and grew to the height of nearly twenty feet; these, as well as I recollect, were exactly of the same description as those found in New Zealand. Such were the most general vegetable productions of this island that fell under our observation; to which we further added the seeds of apples, peaches, melons, punkins, with beans, peas, &c. These were sown in a spot cleared for that purpose, where they were likely to thrive. Fish and fowl seemed to be in great abundance, and future visitors may probably benefit by Captain Colnett's liberality, as a young hog, in very excellent condition, was seen. Although at no great distance from this island we had seen such numbers of turtle, it was singularly remarkable that there was not the most distant sign of their resorting to these shores, which abounded with white and brown rats, and vast numbers of land-crabs. All the birds of the oceanic tribe, common to the tropical regions, repaired hither in great flocks, and were by no means bad eating. Besides these were seen hawks, a species of brown and white herons, rails, a kind of blackbird, and a few others, that chiefly inhabited the woods; which, with some ducks and teal, were what was observed principally to compose the feathered race. A great variety and abundance of excellently good fish frequented the shores; sharks also were very numerous, and the most bold and voracious I had ever before seen. These assembled in the bay in large shoals, constantly attended on our boats in all their motions, darting at the oars, and every thing that by accident fell, or was thrown, overboard. They frequently took the fish from the hooks before they could be got clear of the water; and, what was still more singular, when one of their own species was so taken, and they perceived he could no longer defend himself, he was instantly attacked, torn to pieces, and devoured, by his companions whilst yet alive; and, notwithstanding that these monsters subjected themselves to be greatly annoyed by the harpoons, knives, &c. of our people, by which they received many deep wounds, yet even that did not deter them from renewing the attack upon the one which was caught, until every part of the victim's flesh was thus torn from its bones. On this occasion we had an opportunity of observing, that it is erroneous to suppose the shark is under the necessity of turning on its back for the purpose of taking his prey, as these sharks most commonly attained their object without first turning themselves, as has been generally believed. These sharks appeared to be of three different sorts; the most numerous were of the tiger kind, these were beautifully streaked down their sides; the other sorts were the brown and blue sharks; and it was singularly remarkable that, although they all voraciously devoured the two former species, yet when one of the latter was caught, it remained unmolested by the

rest, and, even when killed and cut up, its flesh was not eaten by its companions. The other kinds of fishes that fell under my notice, besides those common to the tropical seas, were two sorts of bream, the large snapper of the West-Indies, a sort of rock-fish, another kind commonly called yellow-tail; these were all very excellent, and took the hook readily; and, to those who may follow us, and stand in need of refreshments, they may prove a most desirable resource; and there can be little doubt but that persons, under such circumstances, would soon fall upon some expedient, in order to evade the inconvenience to which they might be liable from the extreme vigilance of the sharks. Nor is it improbable that, on a more minute examination, the surface of this little island may be found to produce many articles of refreshment; but, as we did not stand much in need of any, excepting the necessary article water, our attention was undirected to such inquiries, being wholly engrossed in using every possible means of despatch in providing ourselves with those few particulars without which we could not dispense.

For the purpose of commemorating our visit to the island of Cocos, I directed that the date of our arrival, with the names of the vessels, and the commanders, should be cut on the same rock where the other inscription was found: the two former, I understood, were executed, but it seems that some obstacle arose to prevent the insertion of the latter. The reasons before stated for supposing that this island may hereafter prove useful to those who may traverse these seas, demanded that the utmost attention should be paid to the fixing with accuracy its true position. By the result of all our observations, comprehending 152 sets, taken between the 29th of December, 1794, and the 16th of January, 1795, and 154 sets taken afterwards between the 28th of January and 16th of February following, the longitude of the anchorage deduced thus, from 306 sets of lunar distances from the sun and stars, each set, as usual, containing six observations, appeared to be as follow:—The mean of the whole 306 sets, collectively taken, and reduced to the anchorage by Arnold's No. 14, according to its new rate, shewed the true longitude to be 86° 54′ 26″ W.

The latitude by twenty meridional altitudes of the sun and sea-horizon, by the back observation, taken by five different observers, with different instruments, and varying from 5°.33′ to 5° 37′ 20″, showed the mean result to be 5° 35′ 12″. The variation, by four sets of azimuths, differing from 8° 14′ to 7° 21′, showed the mean result to be 7° 45′ easterly. The rise and fall of the tides were, by the shore, found to be very considerable and regular, twice in the twenty-four hours, without any apparent stream, and were not in the least influenced by the currents. The night-tides appeared to be the highest, and were estimated to rise nearly ten feet perpendicularly, though the surf was too high to admit of any correct measurement. The time of high-water was pretty clearly ascertained to be about 2 h. 10 m. after the moon passes the meridian.

9. GALAPAGOS.—This group of islands and rocks was first discovered by the Spaniards, who named them from the number of turtles found upon them. They have latterly been visited by Captains Colnett and Vancouver, also by Sir Thomas Staines, in the Briton. From the particular descriptions of the two former, and of Lieut. Shillibeer, an officer of the Briton, the following note has been composed. A particular plan of the isles is given on the Chart, reduced from the larger one of Captain Colnett; it is obviously imperfect, but a complete survey is yet a desideratum, as the Spanish surveyors have not extended their researches hither. Captain Colnett has said that these isles deserve the attention of the British navigators, beyond any unsettled situation: but the preference must be given to James's Isle, as it is the only one on which there has been found sufficient fresh water to supply a small ship. But Chatham Isle, being one of the southernmost, he recommends to be the first made, in order to ascertain the ship's true situation, in which you may be otherwise mistaken, from the uncertain and strong currents, as well as the thick weather which is so prevalent there. As this island stands by itself, there is no danger, and in Stephen's Bay (on the N.W. side) thirty or forty sail may ride in safety, besides those which might go into the interior cove. Vessels bound to any part North of the Equator, or whalers generally, will find these islands very convenient places for refitting and refreshment. They would also serve as a place of rendezvous for British fishing-ships, as they are contiguous to the best fishing grounds hitherto known in this part of the ocean.

10. CHATHAM ISLAND.—At day-break, 24th June, 1793, the land of Chatham Island, from the ship Rattler, bore from W. 10° S. to W. 10° N. *by compass*, having the appearance of two isles. A north-easterly current had, during the two preceding days, been

been setting at the rate of from twenty to thirty miles in the twenty-four hours. On rounding the North-east point, the soundings were ninety fathoms, and the distance from the nearest land eight or nine miles. The land towards the east was covered with small trees or bushes without leaves, and very few spots of verdure were visible to us; a few seals were seen on the shore. The land rises at short intervening distances in small hills or hillocks, of very singular forms, which, when seen through a glass, and at no great distance from the shore, have the appearance of habitations, while the prickly-pear-trees and the torch-thistles look like their owners standing around them. In other parts the hills rise so sudden on the low land, that, having a small offing, they appear to be so many separate islands. About four miles off the N.E. end there is a small islet, which is connected by a reef with the main isle; it is covered with seals, and the breakers reach some distance from the shore. The highest land at this part of the isle is of a very moderate height, descending gradually to the shore, which consists alternately of rocks and sand, some of the rocky parts being much insulated, from winding inlets of two or three miles in depth, and from one to two cables in breadth.

At the distance of two or three miles to the westward of the islet, the ship hove-to, and the mate went on shore to sound and land. He returned with green turtle and tortoises, turtle-doves, and guanas; but saw no esculent vegetable, nor found any water that was sufficiently palatable to drink. He ran four miles along the coast, at three quarters of a mile from shore, without gaining soundings; at length found bottom at ten fathoms. With the deep-sea-lead, at four or five miles from shore, no bottom was found at the depth of 150 fathoms. At day-break it was found that the current, having taken a different direction, had set the ship considerably to the N.W. On drawing towards the shore, in order to obtain anchorage, at five or six miles from land, soundings were now obtained in from 38 to 36 fathoms; these depths diminished to within a mile of the shore, where there were 19 fathoms, fine sand, near the centre of the island. Here the distant high rock (Dalrymple) bore W. 33° S.

From this side the isle appears of moderate height, the highest parts being to the westward. All the north-side descends gradually to the sea, forming low points. Many parts are well wooded; but, as it was winter, there was no appearance of verdure, but from the evergreen trees and plants, such as the box and the prickly-pear, with the torch-thistle and the mangrove. The middle of the isle is low, and, at a very small distance, has the appearance of being divided into two parts, particularly on the south-side. On the western part of the bay, in which the Rattler anchored, the land is barren and rocky; in some parts it has the appearance of being covered with cinders; and, in others, with a kind of iron clinker, in flakes of several feet in circumference, and from one to three inches thick: in passing over them they sound like plates of iron: the earth is also frequently rent in cracks, that run irregularly from east to west, and are many fathoms deep: there are also large caves, and on the top of every hill which was ascended the mouth of a pit, whose depth must be immense, from the length of time during which a stone that was thrown into it was heard.

The island contains no great number, or variety, of land-birds, and those seen were not remarkable for novelty or beauty: they were the fly-catcher and creeper, like those of New Zealand; a bird, resembling the small mocking-bird of the same islands; a black hawk, somewhat larger than our sparrow-hawk; and a bird of the size and shape of our black-bird. Ringdoves, of a dusky plumage, were seen in the greatest number: they seldom approached the sea until sun-set, when they took their flight to the westward, and at sun-rise returned to the eastward; so that, if there is any water on the isle, it may probably be found in that part. Besides, it is the highest land, and a small quantity of water, lodged in the hollow of a rock, would supply these birds for a considerable time.

There is no tree in this island, which measures more than twelve inches in circumference, except the prickly-pear, some of which were three feet in the girth and fifty in height. The torch-thistle, which was the next in height, contains a liquid in its heart, which the birds drank when it was cut down. They sometimes even extracted it from the young trees, by piercing the trunks with their bills.

The winds that prevailed, in June, 1793, were from S.S.E. to S.S.W., always moderate weather; but the tide runs very strongly, particularly the flood, which comes from the eastward; so that we were never wind-rode: the ebb returns the same way, but is not so strong. It is high-water here, at the full and change of the moon, at half-past three, and the rise is 12 or 13 feet. The isle lies in an E.N.E. and W.S.W. direction; its greatest extent is thirteen leagues in length, and ten miles in breadth.

The various kinds of sea-birds seen on the coast of Peru are common here, but not so numerous. There were, also, flamingos, sea-pies, plovers, and sand-larks. No quadruped was seen on the island, and the greatest part of its inhabitants appeared to be of the reptile kind, as land-tortoises, lizards, and spiders. Dead snakes were found, supposed to have perished in the dry season. On the shore were sea-guanas and fine turtles; the latter were of that kind which bears a variegated shell. The guanas are small, and of a sooty black, which, if possible, heightens their native ugliness.* The green turtles are extremely fat, and would produce a large quantity of oil. Their shell is, also, very beautiful, and if that should be an article of any value, a small vessel might make a very profitable voyage to this place. The land-tortoise was very poor at this season, but made excellent broth.

The rocks are covered with crabs, and there are, also, a few small wilks and winkles. The deep-water fish were of every kind usually found in the tropical latitudes, except spermaceti-whale, and of them we saw none; but sharks were in great abundance. Variation of the compass, 8° 10′ E. The thermometer was never higher than 73½°, and, in the morning, evening, and night, it was below summer-heat in England.

Captain Colnett adds, I consider this as one of the most delightful climates under heaven, although situated within a few miles of the equator. The barometer generally stood at 29.3-4. The evening, night, and morning, were always clouded; and, during the nights, there generally fell as heavy dews as on the main.

In March, 1794, the Rattler returned to Chatham Island, and came to an anchor in Stephens' Bay, towards the S.W. end of the island, in 28 fathoms, with the Kicker Rock, described beneath,† bearing W.N.W. two miles. It was attempted to get into this bay westward of the rock; but as there was little wind, with a current setting right out, and no soundings to be got with fifty fathoms of line, till within three quarters of a mile of the shore, and then a rocky bottom, the ship hauled out to the north, and proceeded in eastward of the Kicker Rock; there being regular soundings between it and the bluff, which formed the eastern point of the bay: the greatest depth between them thirty fathoms; but the deepest water is near the rock.

Several of the crew, who were afflicted with boils, were soon restored by the fruit of the moli-tree, wild mint-tea, and a diet of turtle and teal soup, &c. The boats traversed all the lee-side of the island for salt, but without any success, though they discovered several rills of fresh water. One of them proceeded from a bluff, which forms the east point of the bay, and others were seen at the bluff at the eastern part of the island.

The head of Stephens' Bay possesses the convenience of a small interior cove, with three fathoms of water, that will hold four or five vessels, where they may be sheltered from all winds: also a fine sandy beach beneath the rocks, on which a vessel may be hauled upon shore, or hove down, if occasion should require it; and great abundance of turtles, mullet, and other fish, might be caught in a seine. The turtles pass over the rocks at high water, into salt lagoons, to feed. The land is so low in this part of the island, as, at a small distance, to give it the appearance of being divided by a channel of the sea.

Lieut. Shillibeer has confirmed the accuracy of Captain Colnett's description. He says that, excepting the small isthmus, where the volcanoes have not extended their ravages, the island is a perfect body of black lava. The crew of the Briton were fortunate in their search for turtles, and took more than a hundred; several weighed upwards of 370 pounds. Among the grass on the isthmus some land-tortoise were found. The singular rocks, called the Kicker Rocks, already described, mark the centre of Stephens' Bay anchorage.

11. HOOD'S ISLE.—This isle was seen by Captain Colnett, 1st July, 1793, who describes it thus: We saw a small isle, which I beat up to; and, taking observations within a few miles of it, place it in latitude 1° 24′ S., longitude 89° 47′ W. It bears from the west end of Chatham Island south (*by compass*), five leagues. It lies in the direction of N.N.W. and S.S.E. about twelve miles, and appeared to be enlivened with a higher

* The sea-guana is less than the land-guana, and much uglier. They go to sea in herds, for fishing; they sun themselves on the rocks, like seals; and may be considered alligators in miniature.—*Colnett*, p. 56.

† The Kicker Rocks are very remarkable. The larger one is high, perpendicular on one side, sloping on the other, and flat at top; very near and parallel to the perpendicular side, is a rock, of nearly equal height, exactly in form of a church-spire, and which has, probably, been separated from the larger one by some convulsion of nature. An appearance of these rocks is given in the curious volume by Lieut. Shillibeer.

degree

degree of verdure than Chatham Island. In the accounts of Wood Rogers, and others, the Spaniards are said to be acquainted with an island, in the latitude of 1° 16′ S., which has plenty of water on it. This may be true during a rainy season, or some time after it.

M'Cowan's Reef.—This reef is represented by Captain Colnett at the distance of seven miles N.W. from the N.W. end of Hood's Isle. The breakers were seen, at a distance, from the westward, 19th March, 1794.

12. CHARLES ISLAND, &c.—The Briton arrived here on the 25th July, 1814, and, Lieut. Shillibeer says, anchored in a harbour sufficiently commodious to contain a very considerable force. This island is perfectly barren; and, excepting the prickly-pear tree, which grows to an immense size, and a few bushes along the beach, there is no appearance of the least vegetation. There are craters of several old volcanoes, but no trace of any recent eruption was seen. Guanas were found in great abundance; and, notwithstanding their disgusting appearance, they were eaten by many of the sailors, who esteemed them as most delicious food. Many small birds were here, resembling, but more diminutive than, the wood-pigeon, which were exceedingly tame. Many seals frequent the coast, which has no fresh water.

Captain Colnett, in the evening of March 20, 1794, was close in with the south end of Charles Island; the ship then shortened sail, and stood off and on during the night. The isle, of a moderate height, presented a pleasant aspect. The islets to the eastward were seen, and the two larger called Gardner and Caldwell Isles. Several sandy beaches were seen on Charles Island, and a great number of seals. It was found, at day-light, next morning, that the current had set the ship so considerably to the south-westward as to have lost sight of the island.

13. BARRINGTON, DUNCAN, AND JERVIS ISLES.—These isles were seen and named, in 1794, by Captain Colnett. The two northernmost are the highest, and presented the most agreeable appearance, being covered with trees. The southernmost, Barrington, is the largest, but was at the greatest distance; it is of a moderate height, and rises in hummocks. The south end is low, running on a parallel with the water's edge. On the passage from the N.W., great numbers of penguins, with many seals and small birds, were seen.

14. JAMES ISLAND.—On the 24th of April, 1794, Captain Colnett came to an anchor at the N.W. end of James's Isle, a little to the south of Freshwater Bay, where the bucaniers had formerly supplied themselves; but here the surf prevented a landing. On rowing close to the beach, no signs of any spring or rivulet could be seen. The captain afterwards landed, for the purpose of exploring the western coast of the island, and says that, at every place where they landed, they might have walked for miles through long grass and beneath groves of trees. It wanted only a stream to compose a very charming landscape. "This isle appears to have been a favourite resort of the bucaniers, as we not only found seats, which had been made by them, of earth and stone, but a considerable number of broken jars scattered about, and some entirely whole, in which the Peruvian wine, and liquors of that country, are preserved. We also found some old daggers, nails, and other implements. This place is, in every respect, calculated for refreshment or relief for crews after a long and tedious voyage, as it abounds with wood, and has good anchorage for any number of ships, and sheltered from all winds by Albemarle Isle. The watering-place of the bucaniers was entirely dried up, and there was found only a small rivulet between two hills, running into the sea by the northernmost side of the hill that forms the south point of Freshwater Bay. Though there is great plenty of wood, that which is near the shore is not large enough for any purpose, but to use as fire-wood. In the mountains the trees may be of a larger size, as they grow to the summit of them. I do not think that the watering-place which we saw is the only one on the island; and I have no doubt, if wells were dug any where beneath the hills, that it would be found in great plenty: they must be made, however, at some distance from the sandy beach, as within a few yards behind them is a large lagoon of salt-water, from three to eight feet in depth, which rises and falls with the tide; and, in a few hours, a channel might be cut into it. The woods abound with tortoises, doves, and guanas, and the lagoons with teal. The earth produces wild mint, sorrel, and a plant resembling the cloth-tree of Otaheite and the Sandwich Isles, whose leaves are an excellent substitute for the Chinese tea, and was, indeed, preferred to it by my people as well as by myself. There are many other kinds of trees, particularly the moli-tree and the algarroba;

roca; but that which abounds, in a superior degree, is the cotton-tree. There is great plenty of every kind of fish that inhabit the tropical latitudes; mullet, devil-fish, and green turtle, were in great abundance: but all the luxuries of the sea yielded to that which the island afforded us in the land-tortoise; which, in whatever way it was dressed, was considered by all of us as the most delicious food we had ever tasted. The fat of these animals, when melted down, was equal to fresh butter: those which weighed from thirty to forty pounds were the best, and yielded two quarts of fat.

"The most extraordinary animal of this island is the sea-guana, which, indeed, abounds in all the isles. We did not see the land-guana in any of the isles but James's, and it differs from that of the coast of Guinea in having a kind of comb on the back of its neck."

The Briton touched here in 1814, and found good anchorage, "a considerable quantity of wood, and, at the foot of an exceedingly high and remarkable mountain, a small stream of water, near which are the remains of the hut of an unfortunate Spaniard, who, being inhumanly left by his companions, lingered out two years of melancholy solitude. The number of guanas can alone be conceived. They have regular burrows, are of a light red-colour, two to three feet long, and do not, when pursued, take to the water, as do those of Charles Island. Among some green bushes, near the beach, is the tomb of Lieut. Cowen, of the United States' frigate, Essex, who fell in a duel with Mr. Gamble, of that ship."

15. ABINGTON ISLE.—This is described by Captain Colnett as a very small isle, well known to the bucaniers. It is high towards the south end, which has a very pleasant appearance, and where is the only bay or anchoring-place in the island. The north end is low, barren, and one entire clinker, with breakers stretching out to a considerable distance. A party sent in the boat, to round it, caught plenty of small fish with hook and line. They landed on the island, and found both tortoises and turtles. Bindloes Isle was seen at a distance, and appeared like a small rugged spot.

16. ALBEMARLE ISLAND.—This island, which had been previously seen by Captains Colnett and Vancouver, was visited by the Briton, in July, 1814. It is the most extensive of the group, is nearly covered by numerous volcanic eruptions, possesses no fresh water; but the numerous plants and shrubs would, to a botanist, be a source of infinite gratification. Many of these plants, and which are exceedingly beautiful, grow immediately from solid lumps of black lava, not having the least appearance of possessing any thing sufficiently nutritious, or at all calculated, to support a shrub in so high a state of vegetation. One had a leaf resembling velvet, and, when broken, an abundance of milky juice, of a strong astringent nature, issued. This plant was very odorous. There are small birds here, also lizards and grasshoppers; the latter are of great size as well as beauty.

Captain Colnett advanced towards Albemarle Island from the southward, 20th of March, 1794, after having lost sight of Charles Island, by a south-westerly current. Several spermaceti-whales were seen. The ship was beating off the island for forty hours, and lost ground considerably from the current's setting so strong to the westward. At 4 *p.m.* of the 22d, the ship was within two miles of the S.E. end of Albemarle Island, when no bottom was found with a line of 100 fathoms.

At length, on the 23d, a large bay opened to view, which was formed by the S.W. end of Albemarle Isle, and the eastern side of Narborough. This is the Elizabeth Bay of the bucaniers. As it is very capacious, good anchorage was expected, but no bottom could be found for two leagues, at the distance of a mile or a mile and a half from the shore, with a line of 150 fathoms. Captain Colnett declares that the inhospitable appearance of the place was such as he had never before seen, nor beheld such wild clusters of hillocks, in such strange irregular shapes and forms, as the shore presented, excepting on the fields of ice in the Antarctic Ocean. The base appeared to be one entire clin[illegible], to a considerable distance from the water-side, and the little verdure that was vis[illegible] was on the tops of the hills, which were crowned with low craggy bushes, that gradua[illegible] diminished in quantity as they hung down the declivities, and were sometimes divided by veins of a hard black shining earth, which, at a small distance, had the appearance of streamlets of water. The storm-petrels accompanied the ship in great numbers. A wind coming right out, with a rapid current or tide, prevented her reaching the head of the bay, and night was approaching. The ship was now becalmed, and lying between two winds, within half a mile, where no bottom could be obtained at 150 fathoms. A southerly wind at last sprung up, when she made sail to the westward, and hove-to for the night. The weather dark and gloomy, with heavy dews and a strong southerly current,

current, so that, at day-light, the ship was nearly as far to the south, as on the preceding noon.

17. NARBOROUGH ISLAND, &c.—This island vies with Albemarle in its dark, gloomy, and mountainous appearance. It is covered with volcanoes, and two were burning in 1814. The island is destitute both of fresh water and vegetation. There is a strong and continual indraught about it.

In the evening of the 24th of March, 1794, Captain Colnett was well up with the south end of this isle, and stood along to the westward, by the western shore. The current, or tide, now set from the S.W. to the northward, and directly on shore. At the distance of half a mile from shore no bottom was found at 150 fathoms. The captain describes Narborough as the highest of the Galapagos, but the eastern part is so low as to render it questionable whether this isle is not connected with Albemarle. Off Cape Berkeley, the N.W. point of Albemarle, many spermaceti-whales were seen, and eleven were taken. The current here ran strongly to the westward, and the winds were light. Captain Colnett describes particulars which induce him to suppose that this is a general rendezvous of spermaceti-whales from the coasts of Mexico, Peru, and the Gulf of Panama, who come here to calve.

REDONDO is a high barren rock, about a quarter of a mile in circumference, which may be seen eight or nine leagues off. At a quarter of a mile from it, the depth is thirty fathoms, and here the boats caught rock-cod in great abundance. Captain Colnett frequently observed the whales to leave this part, and go to the westward; and, in a few days, return with augmented numbers.

18. WENMAN'S AND CULPEPER'S ISLES, &c.—Captain Vancouver, on proceeding to the southward from the Isle Cocos, in 1795, passed between Wenman's and Culpeper's Isles. After leaving Cocos, many ripplings were observed on the water, and an uncomfortable swell from the southward. On the first of February the weather became more pleasant, and the wind at S.S.E. blew so steady a breeze, as to appear like the regular trade-wind. Observed latitude at noon 1° 31′ N., longitude 89° 34′. Vast numbers of fish about the ship, and many birds. The wind now hung far to the south, and compelled the ship to take a westerly course, and so that Wenman's Island was, at length, seen bearing, by *compass*, S. 72° W. eight or nine leagues distant. Observed latitude 1° 26′, longitude 91° 17′, variation 8° E. Here it appeared that the ship had been set, in the course of the last twenty-four hours, ten miles to the north, and twenty-eight miles to the west. The influence of this current, setting to the W.N.W., was very perceptible; for, although with a light air of wind, during the afternoon, the course was directed to the south-westward, yet so rapidly was the ship driven in the direction of the current, that, at sun-set, the island bore S. 46° W., and Culpeper's Isle, which had been discovered about an hour and a half before, bore, at the same time, N. 72° W. During the night there was a light breeze from the S.S.W., with which the ship stood to the S.E.; but so far from stemming the prevailing current, that, at day-light, on the following morning, Wenman's Isle bore, by *compass*, S. 68° E. six leagues, and Culpeper's N. 17° W. twelve miles. At such a rate had the ship been driven between these isles, that, notwithstanding every exertion to prevent it, Wenman's Isle at length bore E. by S. nine leagues, and Culpeper's N.N.E. ¼ E. seventeen miles. In this situation the observed latitude was 1° 28′ N. and 92° 11′ W., by which the current appeared to have set, since the preceding day at noon, ten miles to the north and fifty to the west.

In passing between Wenman's and Culpeper's Isles, which bear from each other N. 42° W. and S. 42° E., at the distance of twenty-one miles, no danger nor obstruction has been seen. Wenman's Isle, which is the largest, is about four miles in circuit; and, according to Captain Vancouver, in latitude 1° 22′ 30″, longitude 91° 44′. Its north-w[illegible]ern side forms a kind of long saddle hill, the northern part of which is highest in the [illegible]sle, and shoots out into a low point, which, at first sight, appeared like an islet. A small peaked neck or islet lies off the S.W. side, which, like all the other parts of it, excepting that towards the north, is composed of perpendicular naked rocky cliffs. The island, in general, presents a dreary and unproductive appearance.

CULPEPER'S ISLE rises in naked cliffs from the sea, off which are two small islets or rocks; that on its eastern side is remarkable for its flat table top, and for its being per[illegible]rated nearly in the middle.

After describing the islands above, as seen on the 2d and 3d of February, 1795, Captain

Captain Vancouver adds, "We were not very expeditious the two succeeding days, as the wind between S.S.W. and S.S.E. was very variable in point of strength; and although we endeavoured to take every advantage it afforded, so little progress did we make against the adverse current, that, on the 5th, the most southern of these two islands was still in sight, and at noon bore, by *compass*, N. 31° W. distant eight or nine leagues. The observed latitude at this time was 59′ N., longitude, 91° 33′ W., and it now appeared, from the dead-reckoning, that the ship had, in the last twenty-four hours, been set by the current seven miles to the north and forty-eight miles to the westward. Variation observed here, 8° east.

The Discovery, with a wind mostly at S.S.W., now proceeded slowly to the southward; and, on the 6th, the land of Albemarle Island was seen. In lat. 0° 28′ N. long. 91° 28′, the rock Redondo bore S. 2° W. The ship had been set by the current, in the last twenty-four hours, twenty-six miles to the westward. On approaching the land, however, the current appeared to have ceased.

The northern part of ALBEMARLE ISLAND, at a distance, appeared like islands, with an extensive and distant table mountain; but the whole, on advancing, formed an extensive lofty tract. On the 7th, *a.m.*, the ship was nearly up with Cape Berkeley, the western extremity of the island, and the weather was fair and pleasant, with a very gentle breeze of wind. The coast here, on the north side, shoots out into two long low black points, or terminates in abrupt cliffs, of no great height, without any appearance of affording anchorage or shelter for shipping. The surf broke on every part of the shores with much violence, and the country wore a very dreary desolate aspect, being destitute of wood, and nearly so of verdure to a considerable distance from the sea-side, until near the summit of the mountains, and particularly on that which formed nearly the north-western part of the island; where vegetation, though in no very flourishing state, had existence.

Cape Berkeley, a low barren rocky point, was ascertained, by observation, to lie in lat. 2 minutes north, long. 91° 30′ W., as shown in the Table. From it the steep flat rock, Redondo, bears N. 2° W. 12 miles. The wind here was mostly light and variable between the West and S.W.; but, with a current, now favourable, the ship passed to the southward of Cape Berkeley, and discovered the shattered, broken, and chaotic land, already described. (*Note* 16.) In Banks's Bay the boat, with only two hooks and lines, was soon loaded with exceedingly fine fish. Many penguins and seals were seen. The ship now continued her passage to the southward, and the positions of Cape Douglas and Christopher's Point were ascertained, as they appear in the Table, page 42. On quitting these isles, the wind seemed to have settled in the south-eastern quarter, blowing a steady pleasant gale."

Captain Vancouver observes, finally, that the climate of the Galapagos appears to be singularly temperate for an equatorial country. He adds that, from their departure from the Isle Cocos the mercury in the thermometer had seldom risen above 78°, and for three days it had mostly been between the 74th and 76th degrees. The atmosphere felt light and exhilarating, and the wind, which came chiefly from the southern quarter, was very cool and refreshing. The deficiency of water Captain Vancouver considers as of little consequence to shipping, because so abundant a supply may always be obtained in the Isle Cocos, in every part of which perpetual springs may be found.

VARIATIONS OF THE COMPASS.—These are shown generally on the Chart, and, particularly, in several of the preceding notes. On reference it will be seen that, at South-Shetland, the variation is about 24° East; near Cape Horn, 22°; about Cape Santa Lucia nearly the same; near the isle Madre de Dios it is 21°; at the N.E. end of Chiloe 16°; near Conception Bay, 14°; off Coquimbo, 13°; Isles of St. Felix, 11½°; near Arica, 11°; near Callao, 10°; off Patibilca, 9½°; off Truxillo, 9°; Gulf of Guayaquil, 10°; near Cape St. Lorenzo, 9°; off Point Guascama, 8½°; Bay of Panama, 9°; near Quibo, 9° 50′; east.

SECTION

SECTION II.

GENERAL OBSERVATIONS *on the* WINDS, TIDES, CURRENTS, *the* PASSAGE *to* BRASIL, *the* ANIMALS *and* PHÆNOMENA *of the* OCEAN.

1. OF THE WINDS.

THE nature of the perennial, periodical, and variable, winds, which prevail to the northward of the Equator, and which include the Harmattan on the African coast, with the south-easterly trade-wind of the Ethiopic Ocean, have been described in our former Book for the Atlantic Ocean. A repetition would, therefore, be superfluous here.

ON THE EASTERN COAST OF BRASIL, between the months of September and March, the winds generally prevail from N. by E. to N.E. by E.; between March and September, the prevailing winds are from E. by N. to E.S.E.

The former of these is generally termed the NORTHERLY MONSOON, and the latter, the *southerly* one; although there appears, in fact, to be no direct and opposite change in them on or about the equinoxes, as is generally the case with the winds so called.

These winds are simply a continuation of the S.E. trade, *which changes its direction* as above described, and as influenced by the land on its approach thereto. The influence of the land, or rather of its *temperature*, is more or less, according to the action of the sun at the particular seasons of the year. When the sun is to the northward, no particular difference is observed in the S.E. trade, but it may be carried within sight of the coast, with scarcely any deviation; nevertheless, about both equinoxes, but more especially when the sun is advancing to the northward, calms and very light winds, with apparently no settled quarter, will prevail near the coast; and this may be said to be more particularly the case on that part of it between the Abrolhos and Cape Frio. As the sun advances to the southward, the trade-wind will gradually come round to the northeastward, and will have its retrograde movement with the return of the sun to the equinox. At this latter season, ships, on approaching the coast, will begin to observe this northerly inclination of the S.E. trade, when within four or five degrees of it, and which they will find gradually to increase as they incline to the westward.

Within a few miles of the coast, and in the different roadsteads and harbours, the wind generally blows directly upon it; and, in the deep harbours, and upon the shore, this is, generally, superseded by a land-breeze, which sometimes lasts the greater part of the night. About Rio de Janeiro, this land-breeze sometimes extends as far to seaward as Round Island, while at Pernambuco it rarely reaches the roadstead.

The preceding remarks are those of Lieut. Hewett. Pimentel, and, after him, M. D'Aprés, has said that the winds of the northerly monsoon, between September and March, are from N.E. and E.N.E., or less northerly than as above; and that those of the southerly monsoon are from E.S.E. to S.S.E., or more southerly. It may, therefore, be admitted that they do sometimes prevail more from the south, and that those near the north but seldom occur.

Mr. Lindley, in his Narrative of a Voyage to Brasil, having resided a considerable time on shore, at Bahia, &c., has described the in-shore wind as follows: "From Cape St. Augustin, (southward,) the wind blows, nine months in the year, chiefly north-easterly in the morning, and north-westerly during the evening and night: this continues gradually changing along the coast, till, at Rio Janeiro and the Rio Plata, it becomes a regular land-breeze from evening till morning, and throughout the day the reverse. During the three stormy months, that is, from the latter end of February to that of May, the wind is, generally, southerly, blowing very fresh and squally, at times, from the south-west."

Lieut. Hewett has observed that, the winds off Cape Frio are seldom found to the southward of East; and, in the northern monsoon, they are generally to the northward

of N.E. Heavy and violent squalls are occasionally met with in rounding the Cape, to obviate the effects of which every precaution is required.

The same officer adds that, at Rio de Janeiro, the sea-breeze varies in its commencement from ten to one o'clock in the forenoon, and ceases in the evening between the hours of seven and eleven. At the full and change of the moon, violent squalls from the N.W., named by the Portuguese "TERRE ALTOS," immediately supersede the sea-breeze, lasting from four to six hours.

Captain Peter Heywood, in the British frigate Nereus, was for three years on the Brasil station, and the greater part of that time in the River Plata: this gentleman describes the winds hereabout as follow:

"At the ENTRANCE of the RIVER PLATA, the prevailing winds, during the summer months, from September to March, are north-easterly, with tolerably clear weather over head, but a dense atmosphere near the horizon. These winds haul gradually to the eastward as you advance up the river; and, about the full and change of the moon, strong breezes from the south-eastward are common at this season, accompanied with rain and foul weather. At Buenos-Ayres, during the summer months, the S.E. winds are generally fresh in the day-time, hauling round to the northward in the night.

"During the winter months, from March to September, the prevailing winds, at the entrance of the Plata, are S.W. or more westerly; but, up the river, more generally from the northward, than from the southward, of west.

"The winter season is the best, in point of weather, at Buenos-Ayres; for, the winds being chiefly from N.W. to S.W., the water is smooth, and the communication can be kept up between the shore and the shipping with more facility. The weather is sometimes, but not frequently, foggy. Fogs are most common in the months of July, August, and September, and prevail more at the entrance of the river, as far up as the S.E. tail of the Ortiz, then above the banks."

The VARIABLE WINDS, in the southern regions, require no description. For those about the Falkland Islands, see note 22, page 35.

2. OF THE TIDES.

At SIERRA LEON and the BANANA ISLES it is high water, on the full and change of the moon, at a quarter past eight, and the vertical rise is from 8 to 10 feet, according to the wind. See the Sailing Directions, hereafter. Along the coast of Guinea, at sea, generally, the vertical rise is about 3½ feet; and, in the mouths of rivers, 5, 6, and 7, feet. At Cape Coast the time is given at 3 h. 30 min. rise 6 to 7 feet; at Lagos, 4 h. 0 min., rise 6 feet; at the Rivers of Benin and New Calabar, 6 h. 0 m., rise 6 feet; Rivers Cameroon and Gaboon, 6 h. 0 min., rise 8 feet.

In the Bay of St. Anna de Chaves, Island of St. Thomas, it flows at 5 h. 30 m.; at St. Paul de Loando, 4 h. 30 m., rise 6 feet; in the mouth of the River Coanza, more to the south, the rise is 8 feet.

In Walvisch Bay, the time is 1 h. 54 m. or 2 h., rise 6 feet; in Table Bay, 2 h. 30 m., rise 3 feet; in False Bay, 3 h. 30 min., rise 4 or 5 feet; at Knysna, 3 h. 15 m., rise 7 feet; Algoa Bay, 3 h. 20 m., rise 6 feet.

At St. Helena, the time of high water is 2 h. 15 m., rise nearly 3 feet.

COASTS of SOUTH-AMERICA.—From the mouths of the Orinoco to Surinam, the time of high water is 4 h. 30 m.; the rise at Demerary 9, at Berbice 11 or 12, and at Surinam 7, feet. At Cayenne, time, 3 h. 45 m., rise 6 feet. The current of the Maranon or Amazon River will be noticed hereafter. Towards the River Para the beginning of the flood sets from the eastward, very rapidly, and veers gradually to the N.E. and North: the rise is here 10 feet.

It is high water off MARANHAM at 7 h. 0 m.; off the River Preguizas at 5 h. 0 m.; spring-tides, on the Bar of Maranham, rise 12 feet; neaps about 9 feet: in the harbour spring-tides rise 18, and neaps about 15, feet. The current in the offing, in general, runs at the rate of a mile and a half in the hour to the N.W., nearly in the direction of the Bank. Close in shore, to the eastward of St. Anna's Island, the tide runs weakly, along shore. The ebbs from the rivers set outward, with considerable strength. At the Roccas, which lie to the westward of Fernando Noronha, the rise is 6 feet.

At

At Pernambuco the time of high water is 1 h. 30 m.; the rise 6 feet. In the harbour or port of Cape Frio it flows at 9 h., but the rise is only 4½ feet. In the channel, within the island of St. Sebastian, the rise and fall is scarcely perceptible, at least not regularly so, but the current sets according to the wind. Hence the tide at Rio Janeiro is so little, that it seems to have escaped notice.

Within the harbour of St. Catherine the ebb and flood are very unsettled, and seem to depend entirely on the wind. The flood sets in from the north, the ebb from the south; and, as the wind is almost always from the sea, the ebb, with a fresh northerly wind, is scarcely apparent, and seldom lasts more than two or three hours. The time of high water, at full and new moon, has been given at 0 h. 49 m.

In the River Plata, likewise, there do not appear to be regular tides; but currents, as uncertain in their duration as they are irregular in their rate and direction. In fine settled weather, with moderate winds, a rise of 5 or 6 feet has, however, been found here.

On the Patagonian Coast the tides are found to be very considerable. In Port Santa Elena, or St. Helena, it is high water at 4 h. 30 m., and the rise is 22 feet: in Port Melo, Bay of St. George, 4 h. 18 m., rise 15 feet. Port Desire, 4 h. 45 m., rise 24 feet: Port of St. Julian, 4 h. 45 m., rise 22 feet: entrance of the Strait of Magallan, time, 11 h., rise 21 feet.

Falkland's Islands.—North entrance of Falkland Sound, 6 h. 30 m.; Tamer Harbour, 7h.; Pebble Sound, 8h. 30m.; Saunders' Island, 7h. 30m.; Jasons' Isles, 8h.; Swan Islands, 8 h. 30 m.; Port Stephens, 8 h.; Port Albemarle, 7 h. 45 m.; Berkeley Sound, 5 h., rise 7 feet. The tides about these isles run with considerable rapidity. Isle Georgia, time uncertain, rise 4 or 5 feet. See note 26, page 36.

On a great part of the Western Coast of South-America, the tides appear to be inconsiderable. Off the coast of Peru, it is said that the vertical rise of the sea is but four or five feet; but in the harbours, especially those to the northward, considerably more. On the coast westward of Panama Bay the water rises 6 feet. At the entrance of the Port of St. Carlos, on the north end of Chiloe, the time of high water is 12 h. 50 m. At the Castillo del Corral, or Port of Valdivia, 11 h. 30 m., the rise here is 5½ feet. At the Islands of St. Felix and Ambrose, the rise is 6 or 7 feet. The ebb and flood run northward and eastward. See note 6, page 45.

At the Galapagos the tide runs very strongly, particularly the flood, which comes from the eastward. The ebb returns the same way, but is not so strong. It is high water at Chatham Isle, on the full and change, at 3 h. 30 m., and the rise is 12 or 13 feet.

It is high water at the Isle Cocos nearly at the same time as at the Galapagos; and Captain Colnett says the vertical rise is 16 feet: but his account and Captain Vancouver's do not agree. The latter gives the time as 2 h. 10 m. after the moon passes the meridian, and the vertical rise as 10 feet. See note 8, pages 47 and 50.

3. OF THE CURRENTS.

The currents of the Atlantic Ocean, northward of the equator, in connection with those to the southward of it, have been explained in our former work, already noticed; and we have had the satisfaction of finding that various experiments since made for ascertaining its accuracy, have tended to confirm the previous explanation: more especially of the equatorial current, setting westerly from the vicinity of the line, along the north coast of Brasil, and thence into the Caribbean Sea. On the passage to Maranham, in vessels from Europe, the current in the offing, in general, has been found to run, as noticed in the preceding statement of tides, at the rate of a mile and a half in the hour to the N.W.; and off the coast of Guyana, from two to three miles in the hour, as expressed on the Chart.

On the East Coast of Brasil the currents generally partake of the direction of the monsoons, as explained in page 57, but vary in velocity according to the advance and decline of them, as well as to the part of the coast.

Lieutenant Hewett says, During the southerly monsoon, the currents to the southward of Cape St. Augustin are not so powerful as to the northward, where they increase in strength until the months of June and July, and then gradually decline. On the contrary,

trary, in the northerly monsoon, they are generally very strong to the southward of Cape St. Augustin, when they are weak to the northward, as they have some difficulty in detaching themselves from the stream, which runs from the S.E. trade around Cape St. Roque.

Mr. Lindley also notices that, "A strong current runs southward from Cape St. Augustin, commencing about the middle of October, and continuing until January; after which there is no particular current till the middle of April, when a powerful one sets in northerly till July, and then subsides in like manner."

The currents of the River Plata, and other local currents near the shores, will be noticed in the Descriptions and Sailing Directions hereafter.

The great current produced in the Indian Ocean, during the north-east monsoon, (October to April,) sweeps along the bank of Southern Africa, and a branch of it is gradually lost, on advancing to the south-westward; but that branch of it which takes a north-westerly course greatly facilitates the passage of ships from the Cape of Good-Hope to St. Helena: and, near that island another cause agitates the face of the waters, namely, the south-easterly trade-wind, which produces the equatorial current, setting to the W.N.W., but varying, as already shown, with local circumstances.

The points recommended for crossing the Line, outward and inward, have been shown in the Book for the Atlantic Ocean; and the routes thence, considered as the most advantageous, are shown on the new Chart.

SINCE the publication of our last edition of the Atlantic Memoir, (4th edition, 1820,) the following experiments have been made on the currents of that ocean; and we embrace this opportunity of detailing them, for the satisfaction of the readers of that work.

1. GREENLAND to TENERIFE.—A bottle from the ship Hecla, Captain Parry, 16th of June, 1819, in latitude 58° 13′ N., longitude 46° 55′ W.,—found on the S.E. shore of Tenerife, 29th of July, 1821, and transmitted to England by Messrs. Pasley, Little, and Co.

2. NORTH-EASTERLY CURRENT TOWARDS SHETLAND.—A bottle from the snow Romulus, Captain John Crawford, 27th of July, 1819, in latitude 57° 47′ N., longitude 20° 42′ W.,—found on a beach, called the Croe Air, upon the N.W. part of the Main Land of Shetland, by Charles Man, 14th of November, 1819, and made public by Mr. Gilbert Man.

3. FROM CHANNEL SOUNDINGS TO THE WEST OF SCOTLAND.—A bottle thrown from the ship Duke of Marlborough, Captain Jeffery, by Mr. George Thom, near the Sole Bank, in latitude 48° 38′, longitude 9° W.,—found on the shore of Carsaig, near the middle of the south side of the Island Mull, 14th of April, 1821, and made known by Mr. Hector Maclean. At the time this bottle was thrown into the sea, the ship was on its passage to London from the Cape of Good-Hope, and an allowance was made for current to the N.W. of 12 miles to the 24 hours. From the spot in which it was dropt, it seems unquestionable that the bottle was carried by the current to the west and north of Ireland, and thence between Ila and Mull, to the place in which it was found. It has, therefore, well answered Mr. Thom's purpose "*of confirming Rennell's Current.*" (*For another bottle from the same ship*, see No. 7.)

4. The CHANNEL CURRENT.—A bottle from the ship Sir Joseph Banks, Captain John Williams, 16th July, 1821, in latitude 49° 11′ N. and long. by chronometer, at noon, 11° 27½′ W. Weather calm. Picked up on the shore at Dannes, between Boulogne and Etaples, 5th of October, 1821, and communicated by the agent to Lloyd's, resident at Boulogne.

5. BAY OF BISCAY, NORTH SIDE.—A bottle from H. M. ship, Graham Moore, 6th of July, 1821, in latitude 47° 47′ N., longitude 7° 51′ W. Found, 15th of September, 1821, on the coast of St. Jean de Mont, arrondissement of Sables d'Olonne, department of La Vendée; and made known by the '*Journal de Paris.*' This bottle was impelled in an E.S.E. direction, the *north-westerly* current not then prevailing, and was within the influence of the *tide*.

6. BAY OF BISCAY, SOUTH SIDE.—A bottle from the schooner, Morning Star, of Liverpool, Captain Andrew Livingston, 7th of October, 1821, latitude 42° 45′ 39″ N. long. 13° 3′ 21″ W. Found, about 29 miles to the northward of Bayonne, in the arrondissement

ment de Dux, latitude 43° 38′ N. longitude 1° 26′ W., and made known by the direction of his Excellency the Minister of the Marine and Colonies of France, in the '*Moniteur*' of January 24, 1822. To his Excellency, and Monsieur Le Baron Seguier, Consul-General of France in England, we are indebted for this information, and for the original document, addressed, by our friend, to the editor of this work.

7. Cape Verde Islands to St. Domingo.—A bottle from the ship Duke of Marlborough, in latitude 16° 22′ N. longitude 26° 31′ W., 14th of October, 1820. Found, 24th of July, 1821, at *Agujero Chico*, or Petit Trou, on the south coast of St. Domingo, in latitude 17° 54′ N. longitude 71° 8′ W., and made public by Captain James Robinson, of the brig Endeavour, of Liverpool.

8. Brasilian Sea to Martinique.—A bottle from the ship Osprey, of Glasgow, latitude 5° 12′ S. and longitude 24° 40′ W., 28th of March, 1820. Found, 4th of February, 1821, near the eastern point of the Salines, quarter of St. Anne, Island of Martinique. Attested at St. Pierre, Martinique, 13th of February, 1821, by Monsieur T. Bournant, Printer and Director of the General Post-Office at that place.

9. Another bottle, thrown from the Osprey, at noon, on the 1st of April, 1820, in latitude 12° 56′ S. longitude 29° 10′ W., was found 10th of June, 1820, on the Barra Grande, coast of Brasil, latitude about 9° 20′ S. Its true direction seems to have been N.W. by W. ½ W. Attested by Messrs. Lowe and Co. of Maçaio, in the province of Pernambuco.

4. PASSAGE TO BRASIL.

To the preceding notices on the Currents, &c. we may add, from the communication of Captain Livingston, that Mr. Cubitt Springall, in the brig Patty, on a voyage to Pernambuco, in 1820, passed through some heavy over-falls, where the sea was so agitated as to break on deck, and which were very alarming; latitude 11° N. longitude 24° 30′ W., about four degrees to the southward of the Cape Verde Islands. Some ripplings, of a similar description, had been previously seen, between 14 and 15° N., and 20 and 27° W.

Mr. Springall, in adverting to his passage outward, adds, "I crossed the equator on the 24th of May, in longitude 25° 26′. This, I am aware from experience, is the best track for a vessel bound to Brasil; or say from 25 to 28°. On the second day after crossing the line, in lat. 2° 36′ S., we found, by observations taken by three quadrants, that the ship was from 40 to 50 miles to the southward of her reckoning, which, of course, was attributed to a current in a S.S.W. direction, which continued with the track of the ship to latitude 6° 36′ S., longitude 28°; then I found, by good observations, the current set equally as strong to the northward. On standing in, to make Pernambuco, with the southerly wind, which prevails from March to August, and being under the necessity of bringing up, I found the current to run at the rate of three and a half knots N.N.W. This was in five or six fathoms water, about 30 miles to the northward of Pernambuco. The southerly current, which prevails from September to March, when the wind is from the northward, is not so strong as the northerly current.

"I sailed from Pernambuco on the 1st of August, and re-crossed the line on the 6th, in longitude 29° 36′, and found a stronger northerly current till in latitude six degrees north, which set the ship constantly to the northward and westward from 25 to 30 miles per day."

Mr. John Luccock, in his very valuable and important volume on the Geography and Navigation of Brasil,* has the following remarks on the passage, which may be advantageously compared with those already given.

"After passing the Cape Verde Islands, the mariner, who is bound to the southward, feels anxious about crossing the line. Landmen, not aware of the circumstance, will probably be surprised to hear that, broad as the ocean is between the coasts of Africa and Brasil, a difficulty exists in clearing Fernando de Noronha and Cape St. Augustin. With a good chronometer on board, I should run boldly on towards the American coast, being careful only to avoid falling to leeward of Cape St. Roque, and into

* "Notes on Rio de Janeiro and the Southern Parts of Brasil; taken during a residence of ten years in that country, from 1808 to 1818." 4to. London, 1820.

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the heavy current which sets close around it. Without a chronometer, or knowledge enough to use it with advantage, I should allow, from 17 degrees of north latitude, a westerly drift, beginning with five miles for 24 hours, increasing the allowance until the latitude of five degrees be attained, when it should be at least 20 miles a day. From that parallel to 13 degrees South, the drift will decrease, and then again become variable. If nine degrees South can be obtained, without seeing the land, the navigator may generally proceed with confidence, even close in shore, particularly in the months from October to March; for the daily land-wind will carry him sufficiently out, while it blows, to render his passage easy and safe when the sea-breeze returns; and close to the land he will find fewer calms, than at the distance of 30 to 50 miles from it. Upon the coast of Brasil, it may be taken, almost as a general rule, that the sea-breeze blows nearly at right angles to the line of the shore, reckoning from cape to cape; within the bights it frequently fails, and even strong south-westers do not always blow home. The period of the year which has been mentioned as most favourable for running down the coast of Brasil, differs, I am aware, very considerably, from the opinions which prevail at the British Post-office; yet, when speaking of commercial affairs, I hope to prove that these months are best adapted for such a purpose. The allowances, too, for drift, which have been explained, it is obvious, ought to be influenced, in some measure, by accidental circumstances; the most important are the place where, and the direction in which, we cut the current. The advice given above is most applicable to cases where the equator is crossed in about 29 degrees of longitude, and the course steered directly upon St. Augustin. The cause of this mighty current, or marine river, is now well understood; but its strength, and, in some measure, its direction, which the navigator should carefully observe, depend upon the winds which have blown between either tropic and the line.

"They are not so steady as has been sometimes represented, and seem to be very materially affected by the relative positions of the sun and moon. It is evident that both these luminaries produce a tide in the atmosphere; and sometimes counteract each others influence. This occurs, in the smallest degree, when the new and full moons happen with the least difference in the declinations of the two bodies. In proportion as this increases, their operations on the air become disturbed; and every month, a vessel, within the tropics, must be placed, unavoidably, between the foci or points upon which their influence most immediately falls. In such a situation, she will probably meet with calms. The winds will freshen continually in proportion as the moon approaches and passes over her, or recedes and leaves the influence of the sun more predominant. Hence, it seems that, the irregularities of the trade-winds, so frequently noticed, and especially of the south-eastern trades, may be connected with the cycle of the moon, and return periodically. An attentive officer observes such circumstances, and endeavours to make use of them."

MAR DO SARGASSO, or WEEDY SEA of the ATLANTIC.—Section 6, in Chapter iii., of the Atlantic Memoir, describes that portion of the ocean which bears this name.* It is satisfactory to find that experience has, at length, determined the impropriety of giving to the weed, which grows in the bosom of the Atlantic, the name of *Gulf-Weed;* the same experience has, also, confuted a very erroneous hypothesis, as to the track of these weeds along the borders of the ocean.

Mr. Luccock, in his '*Notes on Brasil,*' has likewise described the *Green or Weedy Sea.* He states that it extends from 11 to 35 degrees of north latitude, and from 30 degrees of longitude, to an indefinite distance westward. "Here," he says, "the ocean is covered by nodules of sea-weed, from 3 to 18 inches in diameter, somewhat resembling, in form, a cauliflower when stripped of its leaves. They float lightly upon the water, in parallel lines, at a very few yards from each other, and have a yellow-brown colour, like the long stringy fibre which is sometimes seen floating in the English Channel, and which I suppose to be the natural colour of all marine plants growing deeply beneath the surface of the water. These nodules or spheres are composed of a vast number of small branches, about half an inch long, which shoot from each other at an angle of about 40 degrees: hence they multiply continually toward the superficies of the sphere; and each extreme point produces a round seed-vessel. This is little more than one-tenth part of an inch in diameter, is hollow, and contains a small reddish brown seed, scarcely occupying one-fifth part of the husk. The leaf of the plant springs from the joints of the branches, is oblong, indented at the edges, and about an inch and a half long, a quarter of an inch broad.

* Fourth Edition, pages 201, 2, 3.

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"When the nodule is dexterously taken up, all the branches may be traced to one principal stalk; and this invariably shows a fracture, the part by which it has been joined to some larger stem. This fracture is frequently quite fresh, and, in large and vigorous plants, shows distinctly a woody part and a cortex. On the edges of the latter the first symptoms of decay appear. They become brown, and separate themselves from the wood. This also then assumes a darker colour, and exhibits the regular process of disorganization, just in the same manner as does a slip from a currant or gooseberry bush. In process of time, the whole of the plant assumes a darker hue; and, as it decays, floats considerably lower than it did. When kept out of the water for a few hours, it becomes harsh and brown, and acquires the peculiar smell of marine vegetables in a state of putrefaction.

"Sailors say that this weed grows in the Gulf of Mexico; that it passes round Cape Florida with the stream; and, proceeding between Bermudas and the Western Islands, settles in the eddy of that vast current which encircles the Northern Atlantic. To me, however, this hypothesis appears to be inadmissible, not only because there is an evident absurdity in supposing that plants may move rapidly in a still water, which the word eddy here must signify, but because it is impossible for the floating body to move faster than the current does, and in a direction differing from the set of the water. By every observation and enquiry, which I have had an opportunity of making, no uniform current has been found to exist, capable of carrying the nodules in the direction specified, and to parts of the ocean where they are found; and no one, I think, who has considered the subject, will contend that there can be one capable of conveying them through a course of four or five thousand miles, before the plants show symptoms of decay. In this case, too, the *most vigorous plants must be found on the northern verge* of this sea, and the most decayed ones towards its southern limits, which is, indeed, *directly contrary to fact;* for, in the latitude of 11 north, we meet with slips which bear evident marks of being recently torn from their parent stems, and the seed-vessels there are often unusually fresh and flourishing; while, on the northern borders, we sometimes find them perishing, and even decayed; neither of which cases could occur if the plants floated southward.

"It is more reasonable to suppose that the plants grow nearly on the spot over which they float; that those which appear on the surface of the water are only the heads, or minor branches, of others, which flourish beneath; that they are broken off by the agitation of the ocean, or some other accidental circumstance, perhaps by the buoyancy of the seed-vessels themselves, which, at a great depth, must be fully sufficient for the purpose, as it enables them to float lightly even on the surface of the water. There the plant is exposed to the sun, the seed ripens, the pod bursts, and the contents descend again to form new plants; while the old ones decay and furnish manure, according to the established economy of nature among vegetables, both terrestrial and aquatic.

"A great number of very minute barnacles are found upon the leaves and stalks. The seed-pod is usually enveloped in a sort of honey-comb work, which may be taken from it, and, when examined by a lens, resembles, in appearance, the net-work in a fly's eye. Its substance, I conjecture, is coralline. Among other inhabitants of the plant is frequently a number of small crabs, perfectly formed, and evidently young, yet vigorous and active; and, when a nodule, taken fresh from the water at night, is hung up in a small cabin, it emits phosphorescent light enough to render objects visible.

"The singular arrangement of the plants, in parallel lines, is evidently owing to the wind, whose direction they always observe. Each nodule places itself under the lee of its more windward neighbour, and thus observes the law of floating bodies when exposed to a current of air. Should the wind suddenly change, as it sometimes does, a point or two, in this part of the Atlantic, and blow strong, these lines become broken, and form what are commonly called *fields of weed.* These, however, are generally small, and seldom, I suspect, remain long so disarranged.

"In the month of October I have run with a fine schooner, due north, through the N.E. trades, in the longitude of 26°, and found no weed, being perhaps to the east of it. In the month of March, on board a different vessel, we formed a diagonal line, from 26 to 44 west, across the parallels from 11 to 44 degrees, and saw a great quantity of it. In May, of another year, along the same track, there was much less observed; yet I dare not say that these dates are sufficient to point out the season of ripening, maturity, and decay, of the plant; although I have never taken up a nodule which was not full of seed-pods, and never heard of a person who had noticed one destitute of them. It is said

that

that whales come down to the vicinity of Bermuda, at a particular season, and feed upon these plants; yet I do not recollect ever seeing an individual of that species in the weedy sea; but, on the contrary, have noticed a deficiency of fishes in general; and most, if not all, of those which I have seen opened on board, appeared to live, not upon vegetable food, but their fellow-inhabitants of the waters. It is probable, however, that none but such will take a bait or approach a vessel."

5. BRIEF EXTRACTS ON THE ANIMALS AND PHÆNOMENA OF THE OCEAN.

[CHIEFLY FROM THE COPIOUS "NOTES" OF MR. LUCCOCK.]

"BETWEEN the tropics FLYING FISHES abound; but are evidently larger on the southern than on the northern side of the line. They rise out of the water in large shoals, with their fins extended, but motionless; and sometimes fly to the distance of sixty or eighty yards.

The DOLPHIN of the Altantic is improperly called so by British seamen; foreigners name it the *Dorado* or *Dourada*. It delights to swim in the shadow of the vessel; and seems fond of figure, or motion, or a brilliant bottom. It darts about with great rapidity and ease; is very voracious, and easily taken with a hook. When secured, it is not boisterous, but easily held by a line, which is incapable of supporting its weight, and quietly resigns itself. When dying, the colour changes, but the various hues are by no means pleasant ones; and all its brilliancy disappears.

The GUARAPEMA, called so by the Brasilian Indians, from its swiftness, abounds on their coast; and is distinguished from the common Dorado chiefly by its larger size, by the colour of the fins and tail, which is a bright yellow, and by the blue spots on its sides, which are round and beautiful.

SHARKS abound in every part of the ocean, and are sly, jealous, and voracious monsters. Sailors have a rooted antipathy toward them; and the capture of one, particularly on board a Portuguese vessel, is always a subject of triumph. They seem to be the terror of all other fishes, and perhaps of their own species, for they are usually found singly, and create a sort of desert where they go.* Fortunately for their prey, their motion is slow; for themselves, the powers of digestion feeble.

The shark is very tenacious of life, and most easily destroyed by taking off the tail; an operation which opens the principal artery, and causes the creature to expire from loss of blood. Hunger compels them to feed upon each other; and, when nearly of equal size, their battles seem to be violent. The suspicious caution with which they take their prey, sometimes, though not always, turning upon their backs to do so, gives to the Indians of South-America an opportunity of attacking and overcoming them, even in their own element; for, aware that their eyes are so situated with respect to the mouth, that the animal cannot see his object, at the moment when he wishes to seize it, nor the enemy who intends to destroy him, they dive, and dexterously pierce him from below.

The REMORA, or SUCKING-FISH, attaches itself to the shark by means of a striated membrane upon its throat, which enables it to create a vacuum on the skin, and to bring into operation the external pressure of the atmosphere and the water. Its food consists of the scales and slimy substance of the shark's back.

Another of the shark's occasional companions is a small but beautiful fish, which swims near the surface, and keeps its station a few feet before the nose of the monster: hence it has sometimes been called the PILOT-FISH. It is generally about nine inches long, and marked with alternate bands of dark brown and light blue. While preceding its enemy, it seems conscious of security from its own equal speed and nearness to the surface of the water; for the foe never darts upon his prey, nor does he ever voluntarily raise his nose above the water. The Pilot-fish, however, can be observed in this situation only when it is near a vessel, and then it soon takes refuge close to the side of the rudder, and keep its station with astonishing pertinacity: hence it is frequently called also the *Rudder-fish*, and will never go so far forward, under the run, as the point where the

* See Captain Vancouver's Description of Cocos, in the preceding part of this work, Note 8, page 49.

water

water brushes against the sides of the vessel, and strikes off from them. In this situation, perhaps, it finds rest from the fatigues of a long chase, and security from its ravenous pursuer; for the shark, unless urged by hunger, will never approach the counter of a ship, or come beneath any thing which overhangs his eyes.

PORPOISES abound in every part of the Atlantic, and possess the same habits as those found in narrower seas. The largest fish of this class, which I ever saw, was about twenty miles from Cape Frio, in something more than 30 fathoms of water. That part of the back which became exposed to view, was several yards long.

WHALES, though less common on the coast of Brasil than formerly, are still found there. Off the Abrolhos we saw two of these unwieldy creatures in a very sportive mood; they raised their enormous bulks, in an upright position, high above the water, and then fell sideways upon it with a weight which caused the waves to recoil, and discharge a spray to an astonishing extent around.

TURTLES are by no means uncommon in the South-American Seas. They are generally of the hawk's-bill kind, and sometimes grow to a very large size. We took one off the harbour of Rio de Janeiro, which measured five feet in length, three in breadth, and was nearly two feet thick. It seemed old, and was almost covered with barnacles.

The LUMINOUS APPEARANCE OF THE SEA at night has often been the subject of wonder and reflection. This light, when excited by the ship rushing through the water, assumes the form of brilliant stars, or round masses of greenish hue, frequently eighteen inches in diameter. They float by the vessel in every part of the water which her bottom has touched, as deep as the very lowest part of the keel, and form behind her a long and fiery train. At other times, when the breeze is strong, and the billows break and foam, this light appears like fields of flashing fire. Twice I have beheld this latter sight in all its splendour; the water was highly luminous, as far as the eye could reach, and the vessel seemed to be plunging her way over billows of liquid fire. In both instances the night was dark and lowering; and the brilliance of the water formed a grand but awful contrast with the black concave above us. When day-light returned, all this heatless splendour was eclipsed, and the sea exhibited, to a superficial view, only a more dingy colour than usual; to a more close examination it presented myriads of hemispherical bodies of the Medusa tribe.

I am inclined to believe that the chief cause of this luminous appearance has here been incidentally mentioned, and that it arises from the presence of several kinds of animated beings, which have the power of emitting a phosphorescent light. This is evident from the multitude of them which may be taken out of the sea, and still appear lucid and active. Another great cause may probably be found in the disorganization and putrefaction of animal substances; this light abounding on all beaches where the refuse of large cities is discharged. Friction, in most cases, seems to assist in the production, if it be not in all essential to the existence, of this brilliancy. The slight agitation of the water, occasioned by the action of a steady breeze upon its surface, is often sufficient for the purpose; and, in cases where plants are taken up, inhabited by minute animals, exposure to the passing air alone seems to be enough.

That this luminous quality is not confined to the surface of the water, where, for the most part, it appears in the English Channel and North-Sea, is evident to all who have passed the tropics, and may be clearly proved to those who have not; for the shark, when he has taken the bait at night, and finds himself hooked, generally plunges downwards, if line enough be given, many fathoms below the bottom of the vessel, and is visible even there by the light which he creates around himself, while floundering in the water. That the light in question does not proceed from his own body, but from the water which he agitates, or rather the matter which it contains, is manifest; because the larger living fishes, as they dart around and beneath us during the obscurity, leave behind them long lucid trains, just of the same kind, and in the same manner, as the vessel herself does.

For Captain Krusenstern's and M. de Humboldt's remarks on the phosphorescent insects, see the Memoir on the Atlantic, 4th edition, pages 118, 120, 121: for those of the late Captain Tuckey, see the same volume, page 232. The milky whiteness of the sea, described by Captain Tuckey, has been seen in other places, heretofore noticed. Dr. Francis Buchanan has given a particular description, from its appearance in the Indian Ocean, between the Seychelles and Bombay, lat. 6° 32′ N. long. 61° 25′ E. 31st July, 1785. That description is as follows: "About a quarter past seven *p. m.* the se

sea was observed to be remarkably white: the sky was every where clear, except around the horizon, where, for about 15 degrees, it was covered with a dark haze, as is usual in such latitudes. The whiteness gradually increased till past eight: the sea then was as high coloured as milk, very much resembling the milky-way in the heavens; the luminous appearance of the sea resembling the brighter stars in that constellation. It continued in this condition till past midnight, and disappeared only as day-light advanced. The whiteness prevented us from being able to see either the break or the swell of the sea, although both were considerable; as we knew from the motion of the ship and the noise. There was much light upon deck, as we could discern all the ropes much more distinctly than usual. We drew several buckets of water, in which, even when at rest, there appeared a great number of luminous bodies. The bulk of them did not appear to be more than a quarter of an inch in length, and nearly as much in breadth. Some, however, were an inch and a half long, and of the same breadth as the others. These were seen to move in the same manner as a worm does in water. When taken upon the finger, they retained their shining faculty even when dry. When brought near to a candle, their light disappeared; but, by minute attention, an extremely fine white filament could be observed, and lifted upon the point of a pin. It was of an uniform shining colour and form, and about the thickness of a spider's thread. In a gallon of the water, there might be about 400 of these animals emitting light. The water itself, when in the bucket, had a natural appearance. The atmosphere was seemingly free from fog. The stars were bright, and there was no moon-light."

Observations.—The animalcules, which occasion the usual luminous appearance of the sea, emit light only when strongly agitated; and, hence, appear chiefly close by the sides of the ship, or when any large fish passes swiftly, or when a bucket of water is drawn, and the water is suddenly poured out. In doing this, I have often observed that one of the animalcules stuck to my hand, and shone for a little; but as my hand dried, the light disappeared; so that I never could bring the animal to a light so as to discover it by a magnifying-glass. So much seems necessary to explain what I observed on the 31st of July, 1785, when the luminous animals were not only larger and more numerous, but also emitted a stronger light than usual.

In the year 1805, in returning from St. Helena to England, a little north from the equinoctial line, and at no very great distance from the coast of Africa, I had an opportunity of seeing a still more splendid appearance of the luminous animalcules. Soon after dark in the evening, it being nearly calm, we saw numerous lights, at a distance, like the lamps of a great city. The lights gradually approached the frigate, and, on reaching us, appeared to arise from a great many large fishes (albicores) sporting in the water, and agitating the animalcules so as to excite their luminous powers. The Marquis Wellesley, Sir George Cockburn, Sir Colin Campbell, and several other gentlemen of distinction, were witnesses of this splendid phenomenon, which was not, however, accompanied by the milky appearance."*

Mr. Luccock says, in fine weather, near the coast of Brasil, the ship frequently falls into *patches of water*, which exhibit a *brown and dirty appearance*, for several miles in extent. Strangers are apt to suppose that they are on the edge of a shoal; and more than once, he adds, I have seen the helm put hastily down, in order to avoid the supposed sand-bank. Yet the brownness of the water arises from the spawn of fishes; and, when examined by a microscope, or powerful lens, is found to be mingled with vast numbers of the small fry, which have just broken into active existence. They seem to have been deposited by their parents during the winter months; for I have noticed them from June to November, but not in March, April, nor May. They probably serve as food for those fishes which are more fully grown, or the ocean soon would be overstocked.†

AN INDICATION OF WIND.—In the latitude of 34° S., and fully 200 miles from land, we found the rigging covered, one morning, with a multitude of small insects; some of them very beautiful. We had no doubt of their being brought from the land by a N.W. wind, which then began to blow fresh, but wondered at the distance to which

* Edinb. Phil. Journal, vol. v. page 303.

† On the 6th of December, 1815, Captain Kotzebue, on his voyage around the world, observed on the surface of the sea, near the island of St. Catherine, a serpentine streak, about two fathoms broad, of a dark brown colour, which extended as far as the sight could reach. Upon examination, it was found to be occasioned by an innumerable quantity of small crabs, and the seeds of a marine plant or weed, supposed to grow at the bottom of the sea.—*Kotzebue*, vol. i. p. 113.

they

they had been wafted. They were the precursors of one of the most durable gales which I ever experienced: it lasted ten days, with more or less violence, during which we drifted to 36½° South.—*Luccock's Brasil.*

MAGELLANIC CLOUDS, &c.—Sailors, or at least persons fit to be entrusted with the care of a vessel, and to have the direction of her course, must necessarily look every day to the heavens; and may be allowed, without presumption, to extend their views even to distant spheres. I have been frequently surprised at the fact, that nearly all such mistake the MAGELLANIC CLOUDS; and instead of the *nebulæ*, distinguished by that name among astronomers, point to two *black patches*, which are much larger than the nebulæ themselves. They are so black as to be distinctly visible by every one; and naturally prompt us to ask, how is it that these obscure spots exist? how is it that, in these parts of the heavens, there should be such an obvious and well-defined absence of light? Whence comes the luminous hue so greatly diffused as to render these patches remarkable? They exhibit no stars to the naked eye, and very few are visible with a small telescope. Some of a similar kind, but of smaller extent, and various in their degree of blackness, exist in the Southern half of the *Via Lactea* itself; while nothing like them, that I have been able to notice, is found among the Northern constellations.—*Idem.*

[M. de Humboldt's beautiful remarks on the Magellanic Clouds, &c., have been given in the Atlantic Memoir, 4th edition, page 116.]

WATERSPOUTS.—In the Memoir on the Atlantic Ocean, pages 69, 70, we have given the description of a waterspout, as seen by the late Mr. Murdo Downie; and we here give another remarkable example, extracted from a paper addressed to the learned editor of the Edinburgh Philosophical Journal, by the Honourable Captain Napier, R.N., F.R.S.E.

"On the 6th of September, 1814, in latitude of 30° 47′ N. and in longitude, per chronometer, 62° 40′ W.* at 1h. 30m. *p.m.*, the wind being variable between W.N.W. and N.N.E., the ship steering S.E., an extraordinary sort of whirlwind was observed to form about three cables' length from the starboard bow of his Majesty's ship Erne. It carried the water up along with it, in a cylindrical form, in diameter, to appearance, like that of a water-butt, gradually rising in height, increasing in bulk, advancing in a southerly direction, and, when at the distance of a mile from the ship, it continued stationary for several minutes, boiling and foaming at the base, discharging an immense column of water, with a rushing or hissing noise, into the overhanging clouds; turning itself with a quick spiral motion, constantly bending and straightening, according as it was affected by the variable winds, which now prevailed alternately from all points of the compass. It next returned to the northward, in direct opposition to the then prevailing wind, and right upon the ship's starboard beam, whose course was altered to East, in hopes of letting it pass a-stern. Its approach, however, was so rapid, that we were obliged to resort to the usual expedient of a broadside, for the purpose of averting any danger that might be apprehended; when, after firing several shots, and one, in particular, having passed right through it, at the distance of one-third from its base, it appeared for a minute as if cut horizontally in two parts, the divisions waving to and fro in different directions, as agitated by opposite winds, till they again joined for a time, and at last dissipated in an immense dark cloud or shower of rain.

The near edge showered in large heavy drops on the ship's deck, until the cloud was quite exhausted.

At the time of its being separated by the effect of the shot, or more probably by the agitation occasioned in the air by the discharge of several guns, its base was considerably within half a mile of the ship, covering a portion of the surface of the water at least half a furlong, or 300 feet in diameter, from one extreme circumference of ebullition to the other; and the neck of the cloud into which it discharged itself appeared to have an altitude of 40° of the quadrant, while the cloud itself extended overhead, and all round, to a very considerable distance.

Allowing then, from the ship, a base of a little more than one-third of a nautical mile, say 2050 feet, and an angle of 40° to the top of he neck, we shall then have, for the perpendicular height of the spout, about 1720 feet, or very nearly one-third of a statute mile. A little before it burst, two other waterspouts, of an inferior size, were observed to the southward, but their continuance was of short duration.

* Forty-four leagues S.E. from the Bermudas.—ED.

When danger was no longer to be apprehended, I observed the barometer, and found it at $30\frac{1}{10}$ inches, with the surface of the mercury very convex; an appearance which it had not assumed when at the same height at noon, about two hours before; the thermometer stood at 82°, having risen one degree since that time.

During the continuance of the water-spout, and the subsequent rain, which might be a little more than half an hour, the wind blew from all points of the compass at different times, generally shifting at opposite points, never stronger than a fresh breeze for a moment, but in most instances quite light. It was unattended with any thunder or lightning, and the water that fell from the cloud was perfectly fresh.

Having witnessed this extraordinary phenomenon, I endeavoured to ascertain its cause.*

Although this phenomenon was rather terrific in appearance, yet I am not inclined to think it would have been attended with any serious calamity to the ship, had even the whole quantity fallen on board, allowing the loftier sails to have been taken in, the hatches battened down, and scuppers open. The cylinder or spout coming in contact with the masts and rigging, would naturally be destroyed; and the air rushing in instantaneously, to restore the equilibrium, the torrent would be thus checked in its fall to the mere weight or force of a tropical descent. I have heard many reports of ravages committed by these aqueous meteors, but never yet met a person who had actually witnessed or experienced any such distressing effects."

SECTION III.

PARTICULAR DESCRIPTIONS *of the* COASTS, *with* DIRECTIONS *for* SAILING, &c.

*** IN THIS SECTION the BEARINGS and COURSES are those by COMPASS, unless where otherwise expressed: but those given thus [*W.S.W.*] signify the TRUE; and the given direction of wind, tide, or current, is always to be considered as the TRUE.

1. THE COASTS OF AFRICA, *from* SIERRA-LEON *to the* CAPE *of* GOOD-HOPE, *and thence to* ALGOA BAY.

IN our Book for the Atlantic we have given directions for the African Coast, from the Strait of Gibraltar to Sierra-Leon, and from Sierra-Leon to the River Gaboon: the first part as complete as our documents would admit; the second, more in outline, as the plan of that work would not admit a closer or more particular detail.

The present object, therefore, is, to give full directions for the coasts and harbours between Sierra-Leon and the Cape of Good-Hope; and, as an acceptable addition, a continued description of the coast to Algoa Bay, &c.

The ISLES IDOLOS, (vulgo DELOSS,) which lie at the distance of a degree to the *N.N.W. true* from the River of Sierra-Leon, have been described, as noticed above. Some additional remarks, from the pen of Captain Roussin, of the French Navy, may, however, be useful.

The isles worthy of description are Tamara, the Isle Idolos, or Factory Island, and Crawford's Island, by the French called Isle Françoise. Tumba, on the east, is so connected to the continent by beds of sand, mostly dry, that it can hardly be considered as an island.

TAMARA, the largest and westernmost island, may be seen, in fair weather, at the distance of seven or eight leagues. On approaching, it appears like a range of hills, thickly

* See Edinb. Phil. Journal, vol. vi. page 97. Several beautiful figures of the formation of a waterspout is given in vol. v. of the same work, with descriptions by Mr. Maxwell and Dr. Buchanan.

wooded;

wooded; its elevation moderate, and the northern part higher than the south. It is, in shape, like a crescent, with many good anchoring-places in its southern concavity; common depth, 6 fathoms at low water. At the principal anchorage in the S.E. is a spring of fresh water, that will yield eighty hogsheads in the twenty-four hours. To the north of the island is a rock, marked *doubtful* in the charts, the situation of which has not yet been correctly ascertained. It was discovered, for the first time, by the Arethusa, Captain Collins, which was lost there in 1811. Le Rubis, a French frigate, was also wrecked there in 1813.*

The English establishment now occupies Crawford's as well as Idolos or Factory Island. The resources for shipping at the isles are abundant and important. Exclusive of wood and water, which may be readily obtained, supplies may be had of cattle, rice, kids, poultry, giramont, bananas, oranges, and citrons. The cattle are small, but the flesh is well-flavoured. These articles would be dear enough, if paid for in money, but come cheap in exchange for articles of merchandise. The following are sure to be called for: linen cloth, hardware, gunpowder, iron, fire-arms, brandy, and tobacco.†

SIERRA LEON.—Since the publication of our former work, and even since several sheets of the present one were printed, we have been favoured with some copious and valuable information, on the coasts and navigation of Africa, by Mr. James Finlaison. This gentleman served as master of H.M. ship Tartar, under the broad pendant of Sir George Collier, during the years 1818, 19, 20, and 21, and within this period he made many important observations. His directions for Sierra Leon, &c. which may be compared with those in our former book, are as follow:

The entrance of Sierra Leon River is formed by Cape Sierra Leon to the southward, and Leopard Island to the northward. The latitude of the Cape is 8° 30′, longitude 13° 12′ W.‡ Variation, 16° 40′ W.

Ships from the northward, when bound to Sierra Leon, should be careful how they approach the cape. They must keep their lead going, and not approach any nearer than in six fathoms, until they see the high land of Sierra Leon. It often happens, when the weather is hazy, that strangers mistake Farran Point for Cape Sierra Leon; that point is 7½ miles up the river, above the cape: hence they get on the Middle Ground.§

No one should stand in for the Cape until he gets the high land of Sierra Leon to bear E.S.E. ¼ E. [*East*]; and, when he is six leagues off, he will observe Cape Sierra Leon making in a small low point, with a ridge of coco-nut trees close to the water's edge; and, when within three leagues of the cape, he will observe the Carpenter Rock, having the sea constantly breaking on it. The rock and cape in one bear W. by N. and E. by S. You pass the cape within a quarter of a mile, in 9 and 10 fathoms. To sail up the river, after you have made the cape, and entered, you will open the first bay, called *Cape Bay*, which has a pleasant appearance, and is three quarters of a mile broad; the next is *Pirate's Bay*, so called from being the place where pirates used to refit their vessels; the third is called *Whiteman's Bay;* and the fourth, *St. George's Bay*: at the latter is *Freetown*, the new town of Sierra Leon. In all these bays fish may be caught with the seine.

Having passed the cape, at the distance of a quarter of a mile, steer S.E. by E. ¼ E. [*E. by S.*] up the river; by sailing thus you will avoid the Middle Ground; the soundings will be 13 and 14 fathoms. Advance no nearer to the Middle Ground than seven fathoms.

The Carpenter Rock lies nearly a mile from Cape Sierra Leon. It may be distinctly seen at low water, and shows itself at half tide. The flood stream sets directly through between the cape and the rock, and there is a clear channel between: but those beating down the river, with the sea-breeze and a strong ebb-tide, must be careful, and give the Carpenter a good berth, as the ebb-tide sets strongly between the rock and the cape.

* This is not a solitary instance. The Southampton, British frigate, was wrecked in the West-Indies, in 1812, by striking upon a rock, the situation of which was not made known to the public until 1817.

† Should this meet the eye of Captain Roussin, we beg leave respectfully to inform him, that his future communications would be very acceptable, for the correction of our Charts.

‡ We make the longitude only 13° 5′, and consider this as correct.

§ Farran Point now has a house on its summit, which serves as a good mark for the mid-channel between the Middle Ground and Carpenter, when kept well open of the north point of the Cape, and bearing by compass S.E. by E. ¼ E.

Ships

Ships bound down the Coast should be careful to avoid the shoals of St. Anne, on the outer edge of which, in latitude 8° 0′ N., longitude 14° 2′ W., are thirteen fathoms.* Four miles S.W. from that there is no bottom at 150 fathoms. This has been ascertained from having crossed them ten different times, and always had good observations.†

From Cape Sierra Leon to the False Cape, the bearing and distance are S. by W. ½ W. [*South*] six miles; and from the False Cape to Cape Chilling, S.S.E. [*S.E. ½ S.*] 22 miles. From Cape Sierra Leon to the Bananas Isles the course is South, or S. ½ W., according to the tide. From the Cape to the Bananas there are regular soundings, from 12, 10, 8, 6, and 5¼, fathoms, four miles from the Bananas, the east point then bearing S.S.E. ½ E., and the west point S.S.W. Here the Tartar anchored.

At Cape Chilling, the hills of Sierra Leon terminate, after having made a high double land, which is seen a great way off; the mountain near the south end is of a prodigious height, its summit being perpetually covered with clouds, and can be perceived at the distance of 14 or 15 leagues. The cape itself is low, and full of trees; and, four or five leagues off, appears like a small island.

About two miles to the westward of Cape Chilling is a large rock, seen above water: nearly three leagues west from the latter is the *Isle Bananas*. In the channel, between that rock and the island, lies the *Wolf*, a sunken rock, which is about two leagues to the eastward of the east end of the isle.

At 8½ leagues S. by E. from Cape Chilling, is *Point Tassa*, the whole space between being called *Yawry Bay*. The *Plantain Islands*, with the *Bengal Rocks* near their west end, lie five miles without Point Tassa, on the north side of Sherbro Inlet. The entrance of that inlet is six leagues broad, between Tassa Point and the westernmost of the *Bashaw* or *Turtle Islands*, lying to the S.W. of it: these islands extend as far as *Cape St. Anne*, the west point of Sherbro Island.

The Bananas appeared as above, from the Tartar's anchorage, at the distance of five miles. Between the ship and island the water deepened to 8, 9, and 7, fathoms. Within a cable's length of the shore, between the westernmost island and the next, there is a depth of only two fathoms. The westernmost islet is inhabited by only one Frenchman, *Jean Baptiste Major*, and his four slaves.

In Yawry Bay, between Cape Chilling and Tassa Point, the shore is bordered with oyster-beds. The bank, stretching five or six miles off, is uncovered with the ebb, and has only four feet over it at high water. From the edge of this bank to the eastern edge of St. Anne's shoals, the distance is about 11 leagues, and the depths of water from 3 to 5, 6, 7, 8, and 10, fathoms. The Bananas Island, which lies in the middle, is about four miles long, from east to west, and one broad. Its islets to the S.W. are encompassed with rocks. The large island, which is all rock, has two small harbours on the easternmost point.

In coming from Sierra Leon to Bananas Island, steer directly for it, as there is no danger. The best anchorage is in five fathoms, two miles from shore, on clear clayey ground. Here the easternmost point bears S. ½ E., and the highest hill S. by W. ½ W. Between this and the shore are 10 and 12 fathoms of water, but the ground is very foul. There are sandy bays, which may be seen from the anchoring-place, and where you may land; but the best landing-place is at the S.E. end: wood and water are to be obtained here. When you bring three small islands to bear N.W., you will be abreast of the watering-place, which is close to the beach, a very good run of water. The tide flows here, on the full and change days, at 8h. 15m.; the flood is from the N.W., and the ebb contrary.

The tides divide off the False Point of Sierra Leon. To the northward of that point the flood runs to the north; to the southward of the point it sets to the south.

At Bananas the tide rises 9 or 10 feet perpendicular during the equinoxes; other spring tides 8 or 9: but, at the Plantain Islands, more to the southward, it rises about a foot and a half more than at Bananas. At the Turtle Isles the rise is 6 or 7 feet, common spring tides.

* But see the particular Chart of the Coast of Africa, from Cape Verde to Sierra Leon.

† Directions for Sailing from the Bight of Biafra to Sierra Leon are given hereafter.

Mr.

Mr. Woodville has said, "It is very evident that the whole chain of mountains called Sierra Leon, as well as the Isles Bananas and the Isles de Loss, are the productions of volcanoes; if we are to judge from the great quantity of lava found there, and from the small pieces of it taken up by the lead, in sounding, at certain distances from the land, opposite to these islands, and no where else; also from the conical figure of many of the hills, and from the ferruginous soil in the country."

SHERBRO' INLET.—The Inlet or Sound of Sherbro, commonly called Sherbro River, is between the island of that name and the main land. The westernmost headland of the island is Cape St. Anne, 5¼ leagues to the eastward of which, on the north side of the island, is *Jenkins*, off which ships of great draught mostly lie.

DIRECTIONS FOR SHERBRO' INLET have been given as follow: From off the west end of the island Bananas steer south, towards the Bengal Rocks, so as to give them a berth of about a league: having rounded these rocks, steer S.E. by E. ½ E. four or five leagues, taking care to avoid the hard sand-bank on the east, which is steep-to. In running on, you may shoalen your water to four fathoms, on the flat of Yallooka River, upon the eastern side, and thence steer S.E. ½ S. if flood-tide, or S.E. upon the ebb, for *Pow Grande*, or the western part of Sherbro' Island. You may run close up to Pow Grande, that coast being bold, and thence steer E. by S. along shore for Jenkins. A small vessel, bound to Bagroo River, on the main, may steer along shore for Bob's Island, to within a league and a half of it; then N.E. by E. for the point of the river. From this, keep the larboard shore on board, as high as you please to go.

To sail to YORK ISLAND, in the River Shebar, off the easternmost part of Sherbro Island: from the channel between Jamaica Point and Bob's Island sail to the S.E., until you open the creek on the starboard hand; then, to avoid a bank in the middle, which is, in some places, dry at low water, steer directly for the west point of the island on the larboard side, going close along the island, which is steep-to, and proceeding in that direction till the east end of it bears N.N.E. Then steer over S.S.E. for Cuckold's Point; and from thence S.E. for York Island, close to which you may lie in five fathoms water.

THE WINDWARD COAST.

THE name of *Windward Coast* has been given, by our navigators, to the whole of that coast which extends from Cape Mount to River Assinee, where the Gold Coast begins: it includes the three particular coasts called 1st. *Grain Coast*, or *Malagette-Pepper Coast*; 2d. *Ivory* or *Teeth Coast*; 3d. the *Coast of Adou*, or *Quaquas*.

From January till May, it is fair and clear weather, with cooling breezes, and gentle westerly winds, on this coast. But, about the middle of May, the south and south-east winds begin, accompanied not only with hurricanes and stormy gusts, but also with thunder, lightning, and great rains, which continue till January.

A general direction for sailing along the Windward Coast, as given by Mr. Norris, is as follows:

A ship may run down the coast, in the night, by the lead, keeping in 18 fathoms between Cape Mount and the Rio Sestros, or River Sesters; thence, as far as Settra Krou, in 20 fathoms; and thence, towards Cape Palmas, in 22 fathoms: but, when near that cape, in 24 or 25 fathoms water.

From soundings of 50 fathoms, the opposite land is seen off deck, at about 6 or 7 leagues distant.

From the River Shebar, at the easternmost end of Sherbro' Island, to the River Gallinas, the distance is about six leagues. This river is navigable for boats only, and its entrance often becomes dangerous, by the breaking of the sea. About five leagues thence is the *River Manna*, formerly called River Nun, at the mouth of which you can anchor, in nine or eight fathoms. This mouth is shut up by the beach, on which there is always a great surf. Three leagues farther, you find the Little River Sugary, beyond which is the bight formed by Cape Mount, having from 10 to 14 fathoms of water, black mud.

Mr. Finlaison says, From the River Gallinas to Cape Mount the coast is very low, and covered with trees. It has a fine sandy beach all the way. About five or six miles off there are regular soundings, from 11 to 12 fathoms, mud and sand, until you arrive at Cape Mount. The Tartar anchored in 15 fathoms, muddy bottom, Cape Mount bearing S. by E., and a remarkable large clump of trees North. Merchantmen anchor farther in, at 9 and 10 fathoms.

The

The Grain Coast extends from Cape Mount to Cape Palmas.

Cape Mount, which may be seen at the distance of eight or nine leagues, is composed of high hills, projecting into the sea: on each side the land is low, rather higher on the north side, with a flat sandy beach on the east side; the cape itself being remarkable by its cliffs.

To fall in with Cape Mount, (which, in coming from the westward, appears as beneath, when two leagues off,) you ought to keep in the latitude of 6 deg. 40 min., having, on account of the current, which sets towards the shore, frequent recourse to the lead, when you think yourself near the land. In the night, you may not approach it nearer than to 26 fathoms, unless well acquainted.

E by N.,

To the westward of the cape lies the road, into which you may run, until the point of the cape bears South, and S. by E. There, in the summer-season, that is, between October and May, when the weather is generally fair, is anchorage in 9, 8, 7, and 6, fathoms, sandy ground; but it is more common to lie in 15, 14, 13, 12, and 10, fathoms, because the tornadoes and southerly winds sometimes make a very hollow sea.

In coming ashore with your boat, you must bring a hawser with you, and fasten one end of it to the land, the other being dropt with an anchor to seaward, so that you may prevent the breakers by it; for you run directly against the flat beach below the town, without any shelter of banks or cliffs; in the morning, you may easily get ashore with smooth water.

From Cape Mount to Cape Mesurado, or *Monte Serrado*, in an extent of 14 leagues, the coast is very low, with a sandy beach, and covered with trees of different colours. Off the River St. Paul, ships may lie near the shore, at pleasure, in from 16 to 6 fathoms, good ground.

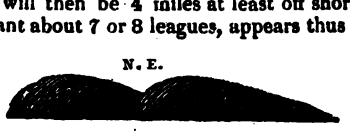
It must be observed here, that, from Cape Mount to Cape Mesurado, as well as upon the coast from Cape St. Anne to Cape Mount, the rains begin with May, and continue till October, accompanied with great thunder and lightning, and furious gusts of wind from the north-west quarter; during that time the sea sets so hard to the N.E. along the coast, and with such mountainous billows, that it is impossible to approach the shore; so that ships, which, between July and September, happen to fall below Cape Mount, cannot, without great difficulty, get about to the South.

Cape Mesurado is a high mountain, almost perpendicular on the North side, and sloping into the sea towards the South. There are regular soundings, 15 to 20 fathoms, muddy bottom, at 8 miles off shore, along which the current sets strongly. Cape Mesurado appears like an island at 7 leagues off, the land on each side being very low. At 2 or 3 miles off shore, with the cape S.E. by S., is a depth of 15 fathoms, muddy bottom, and a common anchorage.

To anchor at this cape, in the rainy season, bring the Mount to bear S.E., distance off shore 3 or 3⅛ miles, and come-to in 14 fathoms water. Here a ship may be well supplied with rice, and all sorts of timber for barricadoes and bulk-head stanchions.

Red Junk River is 5 leagues S.E. ¼ E. [*E.S.E.*] from Cape Mesurado. Thence to the River Junk the bearing and distance are S.S.E. ¼ E. [*S.E.*] 6 leagues. Off the latter, which is known by a saddle-land over it, ships may anchor during the rains, with the river's mouth N.N.E., and the Saddle Land N.E., and come-to in 15½ fathoms water, clear sandy ground; you will then be 4 miles at least off shore. When at anchor, the saddle-land of Junk, distant about 7 or 8 leagues, appears thus:

N. E.



The people here have been greatly corrupted by their intercourse with the European slave-traders; hence, all who approach the shore should be very careful, and always send their boats well manned and armed.

From

From the River Junk to *Picaniny Bassa*, or *Little Bissaw*, is about three leagues. This place is known by King *White's* House, which is very large and remarkable. To anchor there, bring the house to bear N.E. by E., and the *Seven Trees* S.E. by E., and come-to in 16 fathoms. In less water the bottom is rocky. From hence a reef of rocks extends to leeward, as far as the Seven Trees, which makes it dangerous for ships to go nearer than in 15 fathoms.

Little Bassa may be found by a very high tree, which serves as a beacon, and is most conspicuous. It may be seen from the offing when at six or seven leagues from Trade Town, and may be readily known by bringing the high saddle-land to bear E. by S. and steering for it.

From Picaniny Bassa to the *Seven Trees*, or *Bullam Town*, the distance is 2¼ leagues; beyond these, to the eastward, is the *River St. John*. The mouth of this river makes the Grand Bassa, or Bissaw beach, which runs in a South direction, nearly two miles, to Bassa.

It has been observed here, by the late Mr. Norris, that, although the Seven Trees may naturally be supposed, by a stranger, to consist of that number, yet there are, or were, *nine*; and that, when he was lying at anchor at Grand Bassa, they had the appearance here exhibited:

Nothing could be more remarkable than these trees; and what rendered them more so was, their leaning rather to the S.W., which is contrary to most of the trees on that coast; as they generally lean towards the N.W. The town of Bullam is large, and its inhabitants are not to be trusted.

To anchor off *Grand Bassa*, in the rainy season, bring the Seven Trees to bear North, about 6 miles distant, and you will then lie in 15½ fathoms water, very tough blue marl bottom. In the dry season, the anchorage is nearer the shore, in 12 fathoms.

At the mouth of Grand Bassa River is *Grand Bassa Cove*, where there are from 2 to 5½ fathoms water: it is very small, but very safe; having, on its western side, at the entrance, two rocks above water, the westernmost of which is called *Yellow Hill*, the other *Andrew Hardman*. In the year 1761, when the *Améthyste*, a French frigate, made the greatest havoc upon that coast, Captain *Waterhouse*, of the brig *Snapper*, of Liverpool, ran his vessel inside of the Bassa Rocks, stript and moored there, and continued trading in safety, while the small craft of the enemy, then at anchor in the offing, dared not attack him. The *Tubocannee Rock* lies about 6 miles S.E. ¼ S. from the point of the Cove; it is larger than the *Tuskar Rock*, off the coast of Ireland, and from it runs a reef of rocks, under water, as far as Young Sestros.

The River Sestros, or Sesters, is 14 leagues from the Road of Grand Bassa. The trend of the land between is nearly S.E. The river, having several rocks above water, two miles off shore, is known by a hill in the country, which appears as annexed: the land may be readily known, as it appears double.

Rock Sesters is known by some rocks lying off it, and one palm-tree on the point; between the rocks and beach you may anchor.

Sangwin is known by a rock, as large as a ship's hull, about three miles off shore; it has, or had, a short bushy tree upon it, to the southward of which there is anchorage.

Baffou, no large trees about it; some large rocks lie off the point, to the northward of which there is anchorage, in 22 and 23 fathoms, sandy ground.

King Willy's Town is a little way round Baffou Point; to the northward of it is clean, but to the southward foul, ground.

Tassou is known by three rocks lying off it; between which and the shore anchor at one mile off.

Timbo, a large rock, one league off, with some small ones about it; also a small rock, half a mile off the beach, under which anchor at one mile.

Battoa, or *Battou*, appears at a distance like an island, and is known by its high land, and trees very bushy.

Sinou Hill (commonly Snow Hill) and River, is, or was, known by a large single tree standing upon the pitch of the cape, to the eastward of which are some breakers. Anchor in 16 fathoms, sand and stones, 5 miles from the shore. Sinou makes like a long bay, extending north and south.

The current has been observed to set here two miles, and sometimes more, per hour.

Settra Krou; two large trees, appearing, at a distance, like a sail. The next town, *Krou Settra*, is easily known, in clear weather, by the high and bare trees, which rise like masts of ships laid up. Another in 16 fathoms, good sandy ground. The Man and Wife Rocks lie 7 miles N.W. from Krou Settra, and two miles from shore. Ships bound to Krou Settra must carefully avoid a dangerous shoal, lying 3½ miles off that place: what increases the danger, is, that the sea breaks on it once in every 15 or 20 minutes. There are 6 fathoms close to it: 14 or 15 fathoms will carry you without it, but 12 fathoms may take you on it. Krou Settra and the shoal in a line bear E.N.E. Six miles S.E. from this shoal, is Wappou Shoal, or the Swallow Rock, which is likewise covered.

Wappou is known by a large rock in the sea, one league off, and one large tree upon the beach.

Drou River has been a place of good trade for ivory and malagette; but, unless a boat is well manned and armed, it is dangerous to trade there. A rock lies off the mouth of the river, to the northward of which you must go before you enter it.

Baddou lies on the beach: the same caution is to be observed here as with the natives of Drou.

Grand Sestros has, or had, one large tree near the beach, and a round high rock one league off in the sea. Here they are more civilized, and sell ivory, malagette, &c.

Garraway is known by a small hill on the sea-side, whose west point is very steep, and which has seven or eight trees upon it. To anchor there, you keep these trees N. by E. and N.N.E., and the steep point N. by E.; you lie then in 20 or 21 fathoms water, good ground, and about three miles from shore.

CAPE PALMAS.—Cape Palmas must have a good offing, as there is a reef off it upon which the current sets very strongly. Care must also be taken, when approaching the cape, to avoid *Coley's Rock*, which has on its top only 10 feet water, tapering to 7 fathoms all round, as close as you can chuck a biscuit. All round are 13 fathoms. The rock lies with two high trees above Garraway bearing North, 5 leagues, and the pitch of Cape Palmas E.N.E. 6½ leagues.

The Cape, which lies in latitude 4° 30′, long. 7° 41′, appears, at two leagues distance, to be a great point, covered with trees, with a large town standing on the coast. In sailing about it, the current runs with such a force to the S.E., that, if you do not steer a point nearer than your course, you will be carried from the land.

In proceeding along shore, from Cape Mesurado towards Cape Palmas, you may run from the former to the Taboconnee Rocks, in 10 or 12 fathoms. The greatest of these rocks lies three miles off shore, and may be seen at a good distance.

DESCRIPTION *of the* COAST *and its* NAVIGATION, *from* PICANINY SESTROS, *or* LITTLE SESTERS, *to* CAPE PALMAS; *extracted from* CAPTAIN YOUNG'S JOURNAL:

Being off *Little Sesters*, January 15th, several canoes came up to us with promises of stock, as we endeavoured to get all the refreshments we could to windward, none being to be procured to leeward; so we anchored off this place in 15 fathoms water.

Here

Here are several small towns; and much rice, plantains, and some fowls, can be gotten; but no great faith can be put in the people.

From Little Sesters we sailed to the S.E. three or four miles from the shore, in 20 fathoms water; we saw, likewise, many small towns along the coast, and stopped at one of them, called *Grand Currow*, which is pretty large.

Next day we anchored off the *River Sesters*, [*Sestros*,] it being but eight leagues from Little Sesters. This river may be easily known by two or three rocks lying to the N.W. of its mouth, at some little distance from the shore, and also by a long reef, that runs off about two leagues from the south-east point of the mouth; the entrance is very easy for boats, and smooth; when you are in, there is plenty of wood, cut by the natives, for sale. The whole river is good fresh water during the rains, but very indifferent in the dry season, tasting strong of the mangroves, through which it runs; besides, there is so little of it, and it is so difficult to get at, that the women bring it in calibashes on their heads. The people here being naturally civil, many of them came off with fowls, pumpkins, and plantains, which were a great refreshment to our people. The River Sesters is reputed as a place of trade for teeth, which are brought down from a great way up the river, and they are bartered for pretty nearly the same sort of goods as at Sierra-Leon. All the way between this and Cape Mount, there is very little trade, except for rice and stock.

We anchored in 11 fathoms, muddy ground, the south-east point of the river's mouth E.S.E. ½ E.; the river's mouth East, with a great tumbling swell.

From River Sesters we steered right off to sea; for the coast is foul and rocky, all along as far as Cape Palmas, and no coming near it. In three days we were off *Settra Krou*, which is one of the largest towns I have seen on the coast: it stands on the beach; and we anchored with the best bower, in 15 fathoms, the town N.E. four miles, and some black rocks that lie to the westward of it, two miles from the shore, bearing N.N.W. Though it is good holding ground, yet is very rocky; and we went farther to the eastward, where we anchored in 12 fathoms, Settra Krou N. ½ W. four miles, and the black rocks N.W. ½ W. six or seven miles: but still we found the ground foul, so that we weighed, and worked out to sea, without getting any refreshment. This place was formerly noted for a great trade.

Next day, January 23d, we were off *Grand Sesters*, [*Sestros*,] a very large town on the beach: there were no ships in the road. We passed by this place for Cape Palmas, keeping a good offing, from fear of the reef off it, upon which the current sets very strongly.

Captain John Lok, the first Englishman who, in 1554, sailed along that headland, which he calls *Cape de las Palmas*, describes it thus:—"This Cape is a fair high land; but, on the east side, there are some low places by the shore, which look like red cliffs with white streaks, resembling high-ways, each the length of a cable. This Cape is the southernmost land of all the coast of Guinea."

THE IVORY OR TEETH COAST.

This coast begins at Cape Palmas, and terminates at Cape Lahou.

From Cape Palmas to Tabou Point, the bearing and distance are E.S.E. ½ E. [*E.* ½ *N.*] 11 leagues; from Tabou Point to Tahou, East [*E. by N.* ½ *N.*] 11 leagues; from Tahou to St. Andrews' Bay, E. ½ N. [*E.N.E.*] 11 leagues.

We found ourselves, on the 23d of January, says Captain Young, near Tabou, about 11 or 12 leagues to leeward of Cape Palmas. Between this and the Cape is *Cavally River* and *Town*. To a distance of about 9 or 10 leagues from the cape, it is all foul ground, and two long reefs run off into the sea. All about this cape are the places for malagette-pepper: it is usually bought for jugs, beads, knives, and clothes.

Off *Cavally* is good anchoring, in 20 fathoms water: it is easily known by the two steep points of the river's mouth, which is wide and barred; though, in coming from the westward, you will not perceive the river till you are nearly to the S.E. of it. There is no water to be had here, nor any other refreshments. The town stands on the beach, about one mile to the eastward of the river; and its inhabitants, a savage people, have a trade in teeth, which was formerly considerable.

From Cavally the coast runs nearly true east, four leagues, to *Growá*, known by four or five rocks lying before it, some of which are breakers.

The

The land all along is even, but begins to appear double when you are near Grova; then, having passed two hummocks, close to each other, on the beach, you see a low flat point running into the sea, which breaks very much upon it; this is *Tabou Point*, about two leagues E.S.E. from Grova: you may there ride before the town, in 21 and 22 fathoms, good ground.

From TABOU POINT to ST. ANDREWS, the distance, as above noticed, is 22 leagues. Between are several small towns, to which boats are frequently sent. Of these, the principal is *Tahou*, half way between Tabou Point and St. Andrew's Bay, and before which you can anchor in 14 fathoms. Observe that, when you have advanced to within six leagues of Tahou, the land begins to be full of hummocks, and higher, near the coast, than any other seen between this and Cape Mount.

In going down the coast from Cavally (says Captain Young), we met with a westerly current near the shore, and stopped every night, as there was little wind.

On the 18th of February, we anchored in the fine sandy bay of *St. Andrews*, in eight fathoms of water: there is muddy ground at the river's mouth, that goes in by a black rock in the middle of the bay, and which river's mouth bore N.W. ½ W. We were lying two miles from the *Swartou Corner*, which is the bluff point to the westward of the bay, and behind which, in the proper season, you can be supplied with wood and water. It was then bearing N.W.

This bay is easily known by the *high land of Drewin*, to the westward of it; observe that, two round tops of trees shew themselves above the land, about a league to the west of Swartou Corner. This land of Drewin, which is an even table-land, reaches about three leagues in length; it is pretty high when near the shore, but not nearly so high as it is said to be in the old descriptions. Up the river, about three miles, we sent our boats, all manned and armed, from fear of some treachery in the natives: there we found very good water, and made two turns a day with ease, filling it in the boats. We gave the king his *dashy*, and found the people very civil. I think the largest men I ever saw are here: they have a good trade in teeth.

The coast of the high land of Drewin is very rocky in shore, and black rocks extend two miles off.

ST. ANDREWS lies in 5 deg. 0 min. latitude. At the eastern point of the river begin the *Red Cliffs*, which extend 5 leagues E. ½ S. [*E. by N.*] Thence the coast stretches E. by N. 5 leagues to the *River Frisco*, wherein you may have water. This is a place for teeth.

From the River Frisco to Kotrou, the distance is 7 leagues E. ½ S. [*E.N.E. ½ E.*] then the coast makes a small winding more to the southward, and as far as Cape Lahou, about 9½ leagues.

From St. Andrew's Bay to Cape Lahou, the course and distance are E. ½ S. [*E. by N.*] 26 leagues.

The town of Lahou, in latitude of 5° 18½′, is the chief place of trade on the Quaqua Coast, and one of the largest and most populous in these parts. It has a pleasant aspect from the sea. Gold-dust and teeth may generally be obtained here; mostly for fine India goods, though the commodities for traffic are variable, the natives being very fickle in their taste. Ships may ride before the town, as near the east shore as agreeable, in 8, 9, 10, 11, 12, and 14, fathoms, clay ground; but westward of the cape it is all mud or sandy ground, with nearly the same depths of water.

To the eastward of St. Andrew's River, the coast is generally very low, with a sandy beach; it has a very beautiful appearance, having many negro huts, overshadowed with trees of every shade; red, green, and orange.

About 5 leagues to the E.S.E. ½ E. [*East*] of Cape Lahou, lies the town of *Jack Lahou*; for the first two leagues there is a double land along the coast.

About six leagues from Jack Lahou, E. ½ S. lies *Picaniny Bassam*, abreast of which is the *Bottomless Pit*, so called from its unfathomable depth: it is a depth of 50 fathoms at a musket-shot from the coast, 180 fathoms about 2½ miles from it, and then no ground with a line of 200 fathoms. Should you come into 50 fathoms, you must anchor betimes, to avoid the danger of being driven on shore: about two miles from it, and to the eastward of the town, you will have 35 fathoms, hard sand.

From Picaniny Bassam the course is S.E. ½ E. [*E.S.E.*] 9 leagues, to Grand Bassam and the *River Costa*. This river, when you come from the westward, is easily known by the cliff or rock on the beach of its west point.

From

From Cape Lahou to Grand Bassam (says Captain Young), we steered E. by S. and E.S.E. 22 or 23 leagues; and, February 28d, anchored off the river, bearing N.E. ¼ N. two miles, in 12 fathoms water. The town lies to the eastward of the river, on the beach, and is the first to be seen from Cape Lahou. Here we got some plantains and fowls, which we much wanted, having met with none from River Sesters to this place. Gold and teeth are sold by the natives, but their trade is not near so great as at Cape Lahou.

From Grand Bassam we ran E.S.E. and S.E. by E. to *Assinee*, where we anchored in 13 fathoms, the town E.N.E. ¼ N. 2 miles. This town lies on the sea, by the side of a great river: it is pretty large, and has some trade. The land about this place is low, but full of high woods. The River of Assinee divides the Quaqua Coast from the Gold Coast.

THE GOLD COAST.

On this coast, which extends from Assinee to River Volta, the seasons are very nearly the same as on the Grain Coast. In January, the wind begins to blow hard from the S.W. quarter, and becomes stronger in February, bringing with it sometimes rain, and sometimes a hurricane. About the end of March, and beginning of April, those heavy tempests, called, by the Portuguese, *tornadoes*, arise, accompanied with a deluge of rain, thunder, lightning, and sometimes with earthquakes; these continue to the end of May, and are announced by the darkness of the sky in the S.E.

During the rainy season, that is, in May and July, little or no land-winds are felt; but, from the sea, it blows out of the S.W. and W.S.W., making a very great swell, which continues, even in August, though the rains begin to cease in that month.

The weather grows fair in September, and the air clear, with gentle south winds; and this continues till January, the hottest days being in December.

On the Gold Coast, as well as the Windward Coast, an easterly wind called the *Harmattan*, prevails during the months of December, January, and February. This wind comes on indiscriminately, at any hour of the day, at any hour of the tide, at any period of the moon, and continues sometimes only a day or two, sometimes five or six days, and it has been known to last fifteen or sixteen days. There are generally three or four returns of it in every season: it blows with a moderate force, not quite so strong as the sea-breeze, which every day sets in, during the fair season, from the West, W.S.W. and S.W.; but somewhat stronger than the land-wind, at night, from the North and N.N.W.*

Description of the Country and People within the Gold Coast.

This country has been well described by Mr. T. E. Bowdich, in his interesting volume entitled, "Mission from Cape Coast Castle to Ashantee," published in 1819.

Under the instructions of John Hope Smith, Esq. governor in chief of the British settlements on the Gold Coast, this mission left Cape Coast Castle, for the capital of Ashantee, on the 22d of April, 1817, in order to establish an amicable commercial intercourse with that state: for, previously, the army of the Ashantees had invaded and disturbed the whole country, more particularly Fantee, in which Cape Coast Castle and several other British factories are included. Mr. Bowdich says that, in 1807, an Ashantee army reached the coast for the first time. The Ashantees invaded Fantee again in 1811, and the third time in 1816. These invasions inflicted the greatest miseries on the Fantees. Few were slain in battle, for they rarely dared to encounter the invaders; but the butcheries in cold blood were incredible, and thousands were dragged into the interior to be sacrificed to the superstitions of the conquerors. Famines, unmitigated by labour, succeeded the wide waste of the Fantee territory; the wretched remnant of the population abandoning itself to despair; and the prolonged blockade of Cape Coast Castle, in the last invasion, engendered so much distress and hazard, that the government, having averted imminent danger, by advancing a large sum of gold, on

* A full description of the Harmattan, &c. is given in our Memoir on the Atlantic Ocean, Section II, Fourth Edition, page 60.

account

account of the Fantees, earnestly desired the African committee to authorize and enable them to venture an embassy, in order to deprecate these repeated calamities, to conciliate so powerful a monarch, and to propitiate an extension of commerce. This accordingly took place.

The route of the officers on the mission is represented on the Chart.* It was found to be variegated, and in some parts intricate and difficult; but much of the country was very beautiful, intersected by numerous streams, and containing many crooms or villages. Observations for latitude and longitude were made on the route. When at the distance of a mile from the capital, *Coomassie*, the approach of the mission was announced to the king, and they entered this place at 2 *p. m.* passing under a *fetish*, or sacrifice of a dead sheep, wrapped up in red silk, and suspended between two lofty poles. Upwards of 5000 people, the greater part warriors, met the British officers, with "awful bursts of martial music, discordant only in its mixture; for horns, drums, rattles, and gong-gongs, were all exerted with a zeal bordering on frenzy." The smoke, which arose from the incessant discharges of musquetry, limited the prospect to the fore-ground, and we were halted whilst the captains performed their Pyrrhic dance, in the centre of a circle formed by their warriors; where a confusion of flags, English, Dutch, and Danish, were waved and flourished in all directions; the bearers plunging and springing from side to side, with a passion of enthusiasm equalled only by the captains, who followed them, discharging their shining blunderbusses so close, that the flags, now and then, were in a blaze; and emerging from the smoke with all the gesture and distortion of maniacs. Their followers kept up the firing around us in the rear. The dress of the captains was a war-cap, with gilded ram's horns projecting in front, the sides extended beyond all proportion by immense plumes of eagle's feathers, and fastened under the chin with bands of cowries." The other parts of their dress, as described by Mr. Bowdich, were equally ridiculous and singular.

"This exhibition continued about half an hour, when we were allowed to proceed, encircled by the warriors, whose numbers, with the crowds of people, made our movement as gradual as if it had taken place in Cheapside; the several streets, branching off to the right, presented long vistas crammed with people, and those on the left hand being on an acclivity, innumerable rows of heads rose one above another: the large open porches of the houses, like the fronts of stages in small theatres, were filled with the better sort of females and children, all impatient to behold white men for the first time; their exclamations were drowned in the firing and music, but their gestures were in character with the scene. When we reached the palace, about half a mile from the place where we entered, we were again halted, and an open file was made, through which the bearers were passed, to deposit the presents and baggage in the house assigned to us. Here we were gratified by observing several of the caboceers (*chiefs*) pass by with their trains, the novel splendour of which astonished us. The bands, composed principally of horns and flutes, trained to play in concert, seemed to sooth our hearing into its natural tone again by their wild melodies; while the immense umbrellas, made to sink and rise, from the jerkings of the bearers, and the large fans waving around, refreshed us with small currents of air, under a burning sun, clouds of dust, and a density of atmosphere almost suffocating. We were then squeezed, at the same funeral pace, up a long street, to an open-fronted house, where we were desired by a royal messenger to wait a further invitation from the king. Here our attention was forced from the astonishment of the crowd to a most inhuman spectacle, which was paraded before us for some minutes; it was a man, whom they were tormenting previous to sacrifice; his hands were pinioned behind him, a knife was passed through his cheeks, to which his lips were noosed like the figure of 8; one ear was cut off, and carried before him, the other hung to his head by a small bit of skin; there were several gashes in his back, and a knife was thrust under each shoulder-blade; he was led with a cord passed through his nose, by men disfigured with immense caps of shaggy black skins, and drums beat before him; the feeling this horrid barbarity excited must be imagined. We were soon released by permission to proceed to the king, and passed through a very broad street, about a quarter of a mile long, to the market-place.

"Our observations, *en passant*, had taught us to conceive a spectacle far exceeding our original expectations; but they had not prepared us for the extent and display of the scene which here burst upon us: an area of nearly a mile in circumference was

* See, particularly, the large Chart of the Windward and Gold Coasts, lately published by Mr. Laurie.

crowded

crowded with magnificence and novelty. The king, his tributaries, and captains, were resplendent in the distance, surrounded by attendants of every description, fronted by a mass of warriors, which seemed to make our approach impervious. The sun was reflected, with a glare scarcely more supportable than the heat, from the massy gold ornaments, which glistened in every direction. More than a hundred bands burst at once on our arrival, with the peculiar airs of their several chiefs; the horns flourished their defiances, with the beating of innumerable drums and metal instruments, and then yielded for a while to the soft breathings of their long flutes, which were truly harmonious; and a pleasing instrument, like a bagpipe without the drone, was happily blended. At least a hundred large umbrellas, or canopies, each of which could shelter thirty persons, were sprung up and down by the bearers with brilliant effect, being made of scarlet, yellow, and the most showy cloths and silks, and crowned on the top with crescents, pelicans, elephants, barrels, and arms and swords of gold; they were of various shapes, but mostly dome; and the valances (in some of which small looking-glasses were inserted) fantastically scalloped and fringed; from the fronts of some, the proboscis and small teeth of the elephants projected, and a few were roofed with leopard-skins, and crowned with various animals naturally stuffed. The state-hammocks, like long cradles, were raised in the rear, the poles on the heads of the bearers; the cushions and pillars were covered with crimson taffeta, and the richest cloths hung over the sides. Innumerable small umbrellas, of various coloured stripes, were crowded in the intervals, whilst several large trees heightened the glare, by contrasting the sober colouring of nature.

"The king's messengers, with gold breast-plates, made way for us, and we commenced our round, preceded by the canes and English flag. We stopped to take the hand of every caboceer, which, as their household suites occupied several spaces in advance, delayed us long enough to distinguish some of the ornaments in the general blaze of splendour and ostentation.

"The caboceers, as did their superior captains and attendants, wore Ashantee cloths, of extravagant price, from the costly foreign silks which had been unravelled to weave them in all the varieties of colour, as well as pattern; they were of an incredible size and weight, and thrown over the shoulder exactly like the Roman toga; a small silk fillet generally encircled their temples, and massy gold necklaces, intricately wrought, suspended Moorish charms, dearly purchased, and enclosed in small square cases of gold, silver, and curious embroidery. Some wore necklaces reaching to the navel, entirely of aggry beads; a band of gold and beads encircled the knee, from which several strings of the same depended; small circles of gold like guineas, rings, and casts of animals, were strung round the ankles; their sandals were of green, red, and delicate white, leather; manillas, and rude lumps of rock-gold, hung from their left wrists, which were so heavily laden as to be supported on the head of one of their handsomest young boys. Gold and silver pipes and canes dazzled the eye in every direction. Wolves' and rams' heads, as large as life, cast in gold, were suspended from their gold-handled swords, which were held around them in great numbers; the blades were shaped like round bills, and rusted in blood; the sheaths were of leopard-skin, or the shell of a fish like shagreen. The large drums supported on the head of one man, and beaten by two others, were braced around with the thigh-bones of their enemies, and ornamented with their skulls. The kettle-drums, resting on the ground, were scraped with wet fingers, and covered with leopard-skin. The wrists of the drummers were hung with bells, and curiously shaped pieces of iron, which jingled loudly as they were beating. The smaller drums were suspended from the neck by scarfs of red cloth; the horns (the teeth of young elephants) were ornamented at the mouth-piece with gold, and the jaw-bones of human victims. The war-caps of eagles' feathers, nodded in the rear, and large fans of the wing-feathers of the ostrich played around the dignitaries; immediately behind their chairs (which were of a black wood, almost covered by inlays of ivory and gold embossment) stood their handsomest youths, with corslets of leopard's skin covered with gold cockle-shells, and stuck full of small knives, sheathed in gold and silver, and the handles of blue agate; cartouch-boxes of elephant's hide hung below, ornamented in the same manner; a large gold-handled sword was fixed behind the left shoulder, and silk scarfs and horses' tails (generally white) streamed from the arms and waistcloth: their long Danish muskets had broad rims of gold at small distances, and the stocks were ornamented with shells. Finely grown girls stood behind the chairs of some, with silver basins. Their stools (of the most laborious carved work, and generally with two large bells attached to them) were conspicuously placed on the heads of favourites; and crowds

crowds of small boys were seated around, flourishing elephants' tails, curiously mounted. The warriors sat on the ground close to these, and so thickly, as not to admit of our passing without treading on their feet, to which they were perfectly indifferent; their caps were of the skin of the pangolin and leopard, the tails hanging down behind; their cartouch-belts (composed of small gourds, which hold the charges, and covered with leopard or pig skin) were embossed with red shells, and small brass bells thickly hung to them; on their hips and shoulders was a cluster of knives; iron collars and chains dignified the most daring, who were prouder of them than of gold; their muskets had rests affixed of leopard's skin, and the locks a covering of the same; the sides of their faces were curiously painted in long white streaks, and their arms also striped, having the appearance of armour.

"We were suddenly surprised by the sight of moors, who afforded the first general diversity of dress; there were seventeen superiors, arrayed in large cloaks of white satin, richly trimmed with spangled embroidery; their shirts and trowsers were of silk, and a very large turban of muslin was studded with a border of different coloured stones: their attendants wore red caps and turbans, and long white shirts, which hung over their trowsers; those of the inferiors were of dark blue cloth: they slowly raised their eyes from the ground as we passed, and with a most malignant scowl.

"The prolonged flourishes of the horns, a deafening tumult of drums, and the fuller concert of the intervals, announced that we were approaching the king: we were already passing the principal officers of his household; the chamberlain, the gold horn-blower, the captain of the messengers, the captain for royal executions, the captain of the market, the keeper of the royal burial-ground, and the master of the bands, sat surrounded by a retinue and splendour which bespoke the dignity and importance of their offices. The cook had a number of small services, covered with leopard's skin, held behind him, and a large quantity of massy silver plate was displayed before him, punch-bowls, waiters, coffee-pots, tankards, and a very large vessel, with heavy handles, and clawed feet, which seemed to have been made to hold incense: I observed a Portuguese inscription on one piece, and they seemed generally of that manufacture. The executioner, a man of an immense size, wore a massy gold hatchet on his breast; and the execution-stool was held before him, clotted in blood, and partly covered with a cawl of fat. The king's four linguists were encircled by a splendour inferior to none, and their peculiar insignia, gold canes, were elevated in all directions, tied in bundles like fasces. The keeper of the treasury added to his own magnificence by the ostentatious display of his service; the blow-pan, boxes, scales and weights, were of solid gold.

"A delay of some minutes, while we severally approached to receive the king's hand, afforded us a thorough view of him; his department first excited my attention: native dignity in princes we are pleased to call barbarous was a curious spectacle: his manners were majestic, yet courteous; and he did not allow his surprise to beguile him for a moment of the composure of the monarch; he appeared to be about thirty-eight years of age, inclined to corpulence, and of a benevolent countenance; he wore a fillet of aggry beads round his temples, a necklace of gold cockspur-shells, strung by their largest ends, and over his right shoulder a red silk cord, suspended three sapphies cased in gold; his bracelets were the richest mixture of beads and gold, and his fingers covered with rings; his cloth was of dark green silk; a pointed diadem was elegantly painted in white on his forehead; also a pattern resembling an epaulet on each shoulder, and an ornament like a full-blown rose, one leaf rising one above another until it covered his whole breast; his knee-bands were of aggry beads, and his ankle-strings of gold ornaments of the most delicate workmanship; small drums, sankos, stools, swords, guns, and birds, clustered together; his sandals, of a soft white leather, were embossed across the instep-band with small gold and silver cases of sapphies: he was seated in a low chair, richly ornamented with gold; he wore a pair of gold castanets on his finger and thumb, which he clapped to enforce silence. The belts of the guards behind his chair, cased in gold, and covered with small jaw-bones of the same metal; the elephants' tails, waving like a small cloud behind him, were spangled with gold, and large plumes of feathers were flourished amid them. His eunuch presided over these attendants, wearing only one piece of gold about his neck: the royal stool, entirely cased in gold, was displayed under a splendid umbrella, with drums, sankos, horns, and various musical instruments, cased in gold, about the thickness of a cartridge paper: large circles of gold, hung by scarlet cloth from the swords of state, the sheaths, as well as the handles, were also cased; hatchets of the same were intermixed with them: the breasts of the ocrahs, and various attendants, were adorned with large stars, stools, crescents, and gossimer wings of solid gold.

"We

"We pursued our course through this blazing circle, which afforded to the last a variety exceeding description and memory; so many splendid novelties diverting the fatigue, heat, and pressure, we were labouring under; we were almost exhausted, however, by the time we reached the end; when, instead of being conducted to our residence, we were desired to seat ourselves under a tree at some distance, to receive the compliments of the whole in our turn.

"The swell of their bands gradually strengthened on our ears, the peals of the warlike instruments bursting upon the short, but sweet, responses of the flutes; the gaudy canopies seemed to dance in the distant view, and floated broadly as they were springing up and down in the fore-ground; flags and banners waved in the interval, and the chiefs were eminent in their crimson hammocks, amidst crowds of musquetry. They dismounted as they arrived within thirty yards of us; their principal captains preceded them with the gold-handled swords, a body of soldiers followed with their arms reversed, then their bands and gold-canes, pipes, and elephants' tails. The chief, with a small body-guard under his umbrella, was generally supported around the waist by the hands of his favourite slave; whilst captains hollo'd, close in his ears, his warlike deeds and (strong) names, which were reiterated with voices of stentors by those before and behind; the larger part of the warriors brought up the rear. Old captains of secondary rank were carried on the shoulders of a strong slave: but a more interesting sight were presented in the minors, or young caboceers, many not more than five or six years of age, who, overweighed by ornaments, were carried in the same manner, (under their canopies,) enriched by all the pomp and parade of their predecessors.

"A band of fetish-men, or priests, wheeled round and round with surprising velocity. Manner was various as ornament; some dance by with irresistible buffoonery, some with a gesture and carriage of defiance; one distinguished caboceer performed the war-dance before us for some minutes, with a large spear, which grazed us at every bound he made; but the greater number passed with order and dignity, some slipping one sandal, some both, some turning round after having taken each of us by the hand; the attendants of others knelt before them, throwing dust upon their heads; and the Moors, apparently, vouchsafed us a blessing. The king's messengers, who were posted near us, with their long hair hanging in twists like a thrum-mop, used little ceremony in hurrying by this transient procession; yet it was nearly eight o'clock before the king approached.

"It was a beautiful star-light night, and the torches which preceded him, displayed the splendour of his regalia with a chastened lustre, and made the human trophies of the soldiers more awfully imposing. The skulls of three Bunda caboceers, who had been his most obstinate enemies, adorned the largest drum. He stopped to enquire our names a second time, and to wish us good night; his address was mild and deliberate: he was followed by his aunts, sisters, and others of his family. Numerous chiefs succeeded; and it was long before we were at liberty to retire. We agreed in estimating the number of warriors at 80,000.

"We were conducted to a range of spacious, but ruinous, buildings, which had belonged to the son of one of the former kings, and who had recently destroyed himself at a very advanced age, unable to endure the severity of disgrace; their forlorn and dreary aspect bespoke the fortune of their master, and they required much repair to defend us from the wind and rain, which frequently ushered in the nights."

Such are the people of Ashantee; of whom, until the mission of Mr. Bowdich and his companions, the existence only was known.

Mr. Bowdich, on his return from Coomassie, says, "Hearing, as I expected, that there was a path from Payntree's Croom to Cape Coast Castle, avoiding Annamaboe, I determined to explore it, and Payntree furnished me with a guide. The country was beautifully diversified with hill and dale; but the soil was generally lighter, and more gravelly, than that between Annamaboe and Payntree. We passed through several groves of guava-trees, and all the other tropical fruits abounded. Occasionally there were small plantations of Guinea corn, where a few wretched Fantees still lurked in the ruins of the crooms the Ashantees had destroyed. We passed through eleven, which had been considerable, and now presented but a few mud-houses scattered over extensive sites. Their names were Assequah, Daöoraurong, Amparoo, Taächoo, Coorikirraboo, Perridjoo, Abikarrampa, Aquoitee, Miensa, and Amosima. The only water was near Amparoo; it was a large pond, nearly two miles in circumference, and sixty yards broad, impregnated with vegetable matter. After travelling fifteen miles, we climbed

climbed some very steep and rocky hills, apparently of iron-stone, and descended into a flat country, continuing until a small rising, about two miles from Cape Coast Castle, (which I judged to be twenty miles from Payntree, by this interior path,) opened the sea to our view; as delightful to our sight as land would have been after a prolonged and perilous voyage. The shouts and greetings of the natives were a grateful introduction to the more congenial congratulations of our countrymen."

WORDS USED *in the* ASHANTEE, *&c. as explained by Mr. Bowdich.*

CROOM. A town or village.
CABOCEER. A chief or magistrate.
PYNIM. An elder or counsellor.
PALAVER. A dispute, debate, argument, or suit.
BOOK or NOTE. A certificate of a monthly pension of the African committee, paid in trade to the Fantee kings and chiefs in the neighbourhood of the British settlements, in consideration of their attachment, influence, and services; which books or notes were claimed by the king of Ashantee, as his by right of conquest.
STOOL. Throne, seat in council, inheritance.
CUSTOM. A festival, carnival, public ceremony, funeral rite.
To PANYAR. To seize or kidnap.
A BENDA. Two ounces four ackies, or £9. currency.
A PERRIGUIN. Two ounces eight ackies, or £10. currency.
An ACKIE. Five shillings currency.
A TOKOO. Ten pence.
A DASH. A present.
FETISH. A charm, amulet, deity. Any supernatural power or influence. Any thing sacred.

EUROPEAN FORTS AND FACTORIES ON THE GOLD COAST.

The first, which is on the eastern side of Cape Apollonia, is Fort Apollonia, *British*. At Axim, is Fort St. Antony, *Dutch*.

Beyond Cape Three Points:—Acquidah, a fort, *Dutch*. Dixcove, or Nfooma, fort and settlement, *British*. Boutry or Bautre, Fort Bartenstein, *Dutch*. Tacorady or Tacorary, fort, *Dutch*. Secondee, Fort Orange, Dutch, and a factory, *British*. Chama, or Assema, fort St. Sebastian, *Dutch*, at the mouth of the Boosempra. Akatayki, or Commenda, fort, *British*. Elmina, or Addina, or St. George, fort, *Dutch*. Cape Coast Castle, (Igwa of the natives,) *British*. Mauree, Fort Nassau, *Dutch*. Annamaboe, *British*. Cormantine, *Dutch*. Tantumquerry Fort, *British*. Apam, *Dutch*. Whinebah, a small fort, *British*. Barracoe, a small fort, *Dutch*. At Accra, James Fort, *British*; Fort Crevecœur, *Dutch*; Fort Christianburg, *Danish*. Temma and Poney; of little consideration, *Danish*. Prampram, a little settlement, *British*. Ningo Fort, *Danish*. Adda, in the River Volta, Castle, *Danish*. Quitta Fort, *Danish*. WHYDAH, Forts at Grwhee, *British*, *French*, and *Portuguese*, but considered as at the mercy of the King of Dahomey.

DESCRIPTION OF THE COAST AND SAILING DIRECTIONS.

From Assinee to Cape Apollonia, the distance is 10 leagues S.E. ¼ E. [*E.S.E.* ¼ *E.*] Three leagues to the eastward of the former lies *Albanee*, a little town, to the west of a square wood, close by the sea-side. You may anchor between this town and Assinee, in 13 and 14 fathoms, good ground. Two leagues farther eastward lies *Tabo*, near the east side of a river, called the Gold River.

The ground about Cape Apollonia is foul. The only good anchorage is in 14 fathoms, the English Fort bearing north. This fort stands on a beach, four or five miles from the Cape.

Cape. Neither wood nor water are to be had here, and very few refreshments, such as some limes and fowls, which you procure for checked shirts, &c. You land on the beach in the canoes from the factory, bringing your own boat to a grapnel short of the surf. Gold and ivory are to be procured here in exchange for goods, as at Cape Lahou.

CAPE APOLLONIA, in the country of Amanahea, is the most remarkable land along the coast; appearing, in some points of view, with four hummocks; but oftener, and chiefly when you come from the westward, shewing only three, which stand at equal distance from each other, and stretch in a line along shore, thus—

Cape Apollonia is noted for the superior quantity, as well as quality, of its gold-dust, which is bartered for commodities brought from Europe.

From Cape Apollonia, the distance to Axim is five leagues. This is the vice-presidency of, and first factory on the coast possessed by, the Dutch. The water here is very good, and runs from a spring: the boats land very easily behind some rocks.

The mouth of the River Ancobra, or Snake River,* is about two miles westward of Axim. The entrance is apparently rocky, and very small. Three black rocks lie to the eastward of the entrance, about a mile and a half from shore: the sea breaks heavily over them. You may anchor off Axim fort, in eight fathoms, muddy bottom, the fort bearing N.N.E. two miles from shore.

Cape Three Points is remarkable by the three headlands, from which it had its name, and that extend in a line from west to east; the middle one is the real cape.† There is said to be a shoal, three or four miles off this point, the existence of which is denied by those who have passed the point, at less distance than 20 fathoms, without having seen any breakers.

Captain Young takes no particular notice of this shoal, but says it is a difficult and dangerous navigation going into Cape Three Points, and he did not attempt it. Several reefs and rocks lie off here, so that, adds the captain, all ships bound round should keep a good offing, at least three leagues; for the current often sets right in upon the reefs; besides it is steep-to, and bad anchoring.

A rapid current generally runs to the eastward past this cape, which has carried many experienced navigators, bound to Cape Coast, or Annamaboe, to leeward of their ports, and occasioned much trouble and delay to beat up again.

So soon as you are abreast of Cape Three Points, you discover *Acquidah*, a pretty Dutch fort, close to the water-side.

At the distance of five leagues south from Acquidah is a bank, about four leagues long, extending nearly east and west. On the shoalest part are 9 and 10 fathoms. (See the Chart of the Windward and Gold Coasts.)

From Acquidah, 3½ leagues to the eastward, lies *Discove*, originally *Dick's Cove*: it is an English fort and settlement, as well situated for trade as any upon the coast; having water and wood, and a small sort of harbour, made by a reef of rocks, but which is fit only for boats and barks; there is a fine landing. The fort is quadrangular, and built on a rising point of land: to anchor, you bring it North or N. by W. or even N.N.W., and the easternmost point of Cape Three Points W. ¼ N.; then it is just in one with the westernmost point of the road. You lie in 15 fathoms water, clear oozy ground: there is a current, which changes at uncertain periods. Water may be got conveniently, but it is very indifferent, being a still pond: you land in a small cove on the west side of the fort, and roll the casks a small distance. Unless the sea be very boisterous, it is one of the best landing-places on the coast, as small vessels, drawing 11 or 12 feet water, have been hauled on shore, cleaned, and repaired, here. There is a rock in the middle of the cove, on either side of which you may pass. The Dutch have a fort at Boutry, three

* The native name is Seenna.

† To the north-westward of Cape Three Points, are the ruins of Hollandia, formerly belonging to the Brandenburg Company, and called Fort Royal, *Frederricksburg.—Bowdich.*

miles

miles to the north-eastward of this, round a point in a small bay. Fowls, ducks, and corn, may be obtained here.

SECONDEE, or *Secundee*, lies five leagues to the E.N.E. of Dixcove: between this and Boutry the Dutch have the fort of Tacorady, or Tacorary, and Orange Fort, about half a mile to the westward of Secondee. Off Tacorady lies a shoal, three or four miles off, that commonly breaks, which you must avoid, by going no nearer than in 15 fathoms.

Along shore from Dixcove is a sandy beach, to Tacorady. The reef off the latter is four or five miles in length, lying S.E. and N.W.: it has four fathoms close to it.

The British factory at Secondee is about half a mile eastward of Fort Orange. Secondee may be easily known, as the fort is built on a reddish point of land, with a low sandy beach to the eastward and westward.

The interior country, north of Tacorady, called the Adoom District, is said to abound in gold; but the pits have not been worked for many years, from fear of the Warsaws, a people governed by four independent tyrants. Amanahea, to the west, also abounds in fine gold.

CHAMA, or *Assema*, is distinguished by the Dutch fort of St. Sebastian. It lies about five miles from Secondee, on the west side of the mouth of the River Boosempra, where the largest and best canoes are made; and long-boats may go in to get fresh water. The fort is very unhealthy, by reason of the damps that come from that river.*

From off Chama you see AKATAYKI, or *Commenda*, which is about 3½ leagues to the north-eastward, and where there is an English fort. To anchor before this place, bring the village to the N.W., coming no nearer than six fathoms; a little easterly from that village you will be in good sandy ground.

ST. GEORGE DEL MINA, or ELMINA, or ADDINA, the chief settlement of the Dutch on the coast, lies above two leagues east of Commenda; here we anchored (continues the journal) in a quarter less than 10 fathoms of water. The fort N.N.W. ½ W. two or three miles, and Cape Coast E. by N. There is a river at this place, in which small vessels can repair; and on the east side of it, about half a mile to the northward of St. George's Fort, the fort of St. Jago is built, upon a hill, to prevent an enemy's getting possession of that eminence, as it commands the former.

CAPE COAST CASTLE.—From Elmina, you see Cape Coast Castle, seven miles to the eastward. This is the principal fort belonging to the English on the Gold Coast. When the sea is calm, ships may water here with their boats, by coming to a grapnel a little way from the shore, there being black boys to swim the casks to and from the boats. We anchored off Cape Coast Castle at noon, and in the morning weighed, and run down to Annamaboe, a British fort, which is seen from the anchorage three leagues farther to the eastward. The best anchorage at Cape Coast is, when Phipps's Tower and the Castle are in one; they then bear N.W., and you lie in 7½ fathoms, white sand. [*Phipps's Tower is now mouldered into dust.*]

In sailing from Cape Coast Castle, towards Annamaboe, the ruins of Fort Maaree, or Moree, will be seen. Here you will have regular soundings of eight and nine fathoms, at about three miles off shore. There is anchorage at Annamaboe, in 7½ fathoms water, right before the town, Cormantine Fort bearing N.N.E. You may anchor, likewise, in the same depth, having the flag-staff of the fort in one with the second of the Cormantine Mountains: this is reckoned the best berth. The fort of Annamaboe is considered as the most complete fortification on the coast. The negroes here bring wood, water, and provisions, to the ships, but at a moderate price.

CORMANTINE.—The Dutch settlement of Cormantine lies 1½ league eastward from Annamaboe: it is situated upon a hill, and affords the pleasantest prospect on the whole coast. You anchor before Cormantine in seven fathoms water, the fort bearing nearly N.W.†

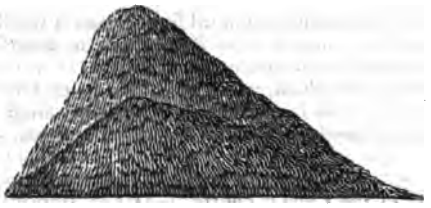
* Mr. Bowdich says, "At six hours' pull up the Boosempra is an island, where Attobra, one of the Warsaw chiefs, who supplies the Dutch with canoes, has a large house. Four hours above which is his croom. Colonel Stahrenberg was pulled three days up the river in a canoe; his progress was much impeded by rocks, and at length arrested by a large cataract, which, being considered a powerful fetish by the natives, the canoe-men dared not to approach."

† Cormantine, the first fort possessed by the English, was built by them about the middle of the seventeenth century. It was taken afterwards by the Dutch; and, being stormed, was almost destroyed by the Ashantee army before it attacked Annamaboe: the situation is very commanding.—*Bowdich.*

Tantum-

Tantumquerry Point lies 5½ leagues from Cormantine; the English fort is about a league to the north-eastward of the point. At this place, and the neighbouring town of *Lagoe*, some trade may be carried on. There is a rock off Tantumquerry, at one mile from shore.

Winebah, or *Simpah*, the next English fort, is 6½ leagues more to the east: between is the small Dutch settlement of *Apam*, two leagues E.N.E. of Tantumquerry; and 2½ leagues farther is the *Devil's Hill*, a high conspicuous mountain, close to the sea-side, and which appears as underneath, when it bears N.N.W. four leagues distant.



If you would anchor about the Devil's Hill, the ground is very good in 8 or 10 fathoms, but in 18 or 20 you will find it very foul.

Winebah is well situated for trade, and defended by a small fort; a mile below the fort is a small river, the water of which is good, if filled at a proper distance from the sea. The natives require a small duty for watering.

Three leagues to the eastward of Winebah lies *Barracoe* or *Seniah*, having a small Dutch fort, situated on the side of a woody hill, with some rocks before it. It is easily known by the double hill, called the *Paps*, which lies inland three leagues to the northward of it.

ACCRA.—From hence the coast reaches *E.N.E. true*, nine leagues, to *Accra* or *Inkran*; and, about three leagues westerly from that place, stands, by the sea-shore, a little round hill, called the *Cook's Loaf*; having passed it, you will descry high mountains inland; then you get even land of a moderate height, as far as Accra.*

There is an English fort at Accra. India goods are generally the barter for teeth and gold. The Dutch factory of Crevecœur, at Accra, has scarcely any trade; and the Danes have a very indifferent one; though this place, or Christianburg, as they call it, is their chief settlement, or head-quarters, on the coast.

Crevecœur was demolished by James Fort, during the American war, but has been partially re-built. The anchoring-ground is very stiff clay, so that a stream-anchor, bent to a bower-cable, is sufficient to hold a ship.

When you anchor before Accra, the red spots, seen on the sea-side, are generally brought to bear north, and you lie in seven fathoms, sandy ground; but the best anchorage, according to Mr. Norris, is in 8½ fathoms, the Dutch fort bearing W.N.W.

Mr. Finlaison says, Those leaving Cape Coast Castle for Accra, should be very careful that they do not over-run their distance; for, if they should happen to get to leeward, it will take them some time before they work back against the swell of the sea and strong current. I would recommend, if a ship leaves Cape Coast in the night-time, not to run more than two-thirds of the distance. At Accra the tide rises eight feet, spring tides; the current sets, in general, to the eastward, except in the Harmattan season, which is about the middle of January. It is good holding ground, but rocky in some parts. The best anchorage is, to bring the English Flag-staff to bear N. by W. ½ W. in six or seven fathoms, two miles off shore.

Eight leagues to the N.E. of Accra, stands the little English settlement of Prampram; and between the two, lie the two smaller ones of Temma and Poney, belonging to the Danes. Prampram was settled by the factory at Accra, on which it is dependent, and from which it is supplied.

Two leagues eastward of Prampram, lies Ningo, a Danish fort, with a ridge of hillocks to the east of it. This part of the coast is known by the Crobo Hills, which

* The Portuguese first settled at Acera, about 1492; but, exercising the greatest cruelties and enormities, were extirpated by the Accras, who executed the governor and his countrymen on a spot, whence they still take the earth to rub on a new-born child, in commemoration of the event.—*Bowdich.*

stand

stand about eight leagues inland, and by the remarkable high sugar-loaf to the northward of them, called Ningo Grande.

The people of Ningo, or Ningpo, speak a language different from that spoken to the westward; it is called *Adampee*, the name given to their country. The people of the Crobo Hills, though few in number, have hitherto baffled the Ashantees, by quitting their croom at the bottom of the mountain; the latter being of great height, rugged, accessible but by one narrow path, and with springs of water on the top. From the summit they roll down upon their enemies the large stones and fragments of rock which abound there.

RIVER VOLTA.—Seven leagues eastward from Ningo is the River Volta, where the Gold Coast terminates: the inland is so flat, that it is difficult to know the place, especially in coming from the westward, for then the river is not seen till it bears N.N.W., when you descry the island, which lies within its entrance.

In running along shore for the River Volta, you will soon know when you are abreast of it, the water changes suddenly to a dark olive colour; regular soundings all the way, and the current setting strong round Cape St. Paul: in making Cape St. Paul the land is very low, and you will not see it more than four leagues off; it is covered with trees. Ten miles to the N.E. of the Cape is *Quitta*, a Danish settlement; you may anchor any where hereabout, in eight or nine fathoms of water.

Rio Volta received that name from the Portuguese, on account of the velocity of its stream. It pours such a quantity of water, that its quality is not altered at a great distance in the sea; and the colour, as well as the taste, differing from the common sea-water, indicates, with certainty, the vicinity of the river. There are high breakers at the very mouth of the river, which is only one mile wide, and has two bluff points; one to the west, called Sandy Bluff; the other to the east, named Woody Bluff. When you come into the river, you must run in from the east side, within the breaking, as the water lies very plain in that place. Before the river lies a flat, extending three leagues into the sea, with from five to nine fathoms, soft muddy ground, which is cast off by the stream.

The entrance of the Volta has been surveyed by Mr. Finlaison, from whose survey it appears that the western point of the entrance is a tongue of land, five miles long, in the general direction of the coast, and having on it a little fishing-town. Adda Castle, the Danish fort, is on the western bank of the river, at 11 miles up from the entrance: the country between is low. The best entrance, having only two fathoms on the bar, lies within a mile of the western point. The course thence, to a little island within the river, is E.N.E., and then N.E., and north to Adda Castle. The depths are 3, 4, 2, 4, 3, $1\frac{1}{2}$, $2\frac{1}{2}$, and 3, fathoms, all towards the western shore, leaving three woody islands on the eastern or starboard side. *(See the Plan of the River, on the Chart of the Windward and Gold Coasts.)*

The mouth of the Volta, according to Mr. Finlaison, is in latitude 5° 48′ N. The Tartar anchored in seven fathoms, off the entrance, which then bore N.N.W. Mr. Finlaison says, "We found regular soundings from the ship to the breakers, and proceeded through the east channel, after waiting for a smooth sea to enter; here we found only six feet of water; we pushed up the river, and pulled round the island, where we expected to find the Danish fort, but soon found that we were misinformed. There were about twenty huts on the west point, called Sandy Bluff; on our arrival the natives fled. We returned on board through the same channel. At day-light, the Commodore, Sir George Collier, with three boats, proceeded up the river, sounding all the way; and, after we got about ten miles up the west branch, we discovered the Danish flag flying on the main land. We then landed, among ten thousand of the natives, and went up to the fort. The water, three miles above the fort, was flat, as far as Fetish Island, where we stopped for two hours, and then returned. In sailing back, I observed a better channel than the easternmost one, close to the west point of the river, which I sailed through, and the least water I had was $2\frac{1}{2}$ fathoms; it was about 50 fathoms broad, which I certainly will recommend as the best and safest channel."

The COASTS of KERRAPAY, POPOE, WHYDAH, &c. from Cape St. Paul to Cape Formosa.

The space of sea comprised between the Cape of St. Paul and Cape Formosa is called the Bight of Benin. The flat of the Volta extends to the former, and no ship should advance nearer than in 11 or 12 fathoms of water. When clear of that depth you will fall quickly into 30 fathoms.

Cape St. Paul is a low point, covered with trees, as already noticed: between it and the Volta the land appears broken.

At Quitta the land is low and marshy, almost even with the surface of the sea. The Danish fort is included in an independent state of Kerrapay, called Agwoona, which extends thence along the coast to the Volta. There are six towns between, the principal of which is Agwoona, and the caboceer of this place is supreme over the others, but not absolute

Between Quitta and Popoe are four Kerrapay towns, governed by caboceers, independent of each other, as well as of Agwoona.

From Quitta to Little Popoe, which lies about 12 leagues E. ¼ N. [*N.E. by E. ¼ E.*] the coast, rounding regularly, forms a bight, in which you have from 7 to 15 fathoms water, four leagues from the shore. About four leagues true east from Little Popoe, four remarkable hills are seen near the sea; you then may steer along shore, having low land all the way. The town called Little Popoe, which is close to the water-side, has a very bad beach to land on. The Dutch have or had a factory here, but no sort of fortification.

The mouth of Little Popoe River is choked up with sand, but there is fresh water in a river which runs along shore, within the beach; though not to be gotten off without great difficulty. You may anchor before the town, in 9 or 10 fathoms, coarse white sand.

Seven leagues E. by S. [*E. ¼ N.*] from Little Popoe, stands *Great Popoe*; and 4½ leagues farther, in the same direction, you come to Whydah, the coast being low land, spotted here and there with trees.

Whydah lies 11½ leagues from Little Popoe, in a low, flat, marshy, and unhealthy, country. There are three forts near this place, at *Griwhee*, one league from the shore; one British, one French, and one Portuguese. They lie always at the mercy of the king of Dahomey, who lives at some distance up the country, and who is quite as arbitrary as the despot of Ashantee. This was formerly a place of great trade. A principal article of import is tobacco; for this, all the way from Whydah to Cape Palmas, is a very valuable commodity. At this place, beef, mutton, and fowls, may be obtained.

Two leagues to the westward of Whydah Road lies, on the flat shore, a remarkable hillock, called *Mount Palaver*; and, one league westward from it, you perceive three or four groves of trees, the westernmost of which is the largest; in the middle of these groves stands one tree, of a prodigious height, appearing, at a distance, like a tower. There stand, also, about a league westerly from Whydah, close to the sea-side, two trees, with great round tops, which they call the *Two Brothers*.

To anchor in the Road of Whydah, the two great thick trees, which stand within the village, must be brought to bear N. by E. and N.E.; then you anchor in 7, 8½, and 9, fathoms, grey mud, with broken shells, about one league from the shore.

To the eastward from hence stands a thin wood, which extends along to a great distance.

From Whydah the coast runs about 27 leagues E.S.E. ¼ E. [*East,*] to *River Lagos*. In this course, at the end of the first seven leagues, you come to *Appee*, formerly a kind of English factory; the village is about four miles inland. Appee is still a place of trade: and, between it and Whydah lies *Jackin*, a small town upon the beach, which has ceased to be a place of trade.

Anotto is produced in the neighbourhood of Whydah.

Three leagues from Appee is *Porto Novo*, the Port of *Ardrah*, distinguished by beachmen's huts on the shore. Ardrah is the capital of a kingdom or province of the same

same name, and a place of great trade, about 10 leagues inland.* You anchor before Porto Novo in 7½ fathoms, black clay, with shells.

About four leagues from Porto Novo lies the port of *Badagry*, another village, where vessels sometimes stop: the anchorage in the road is pretty good, in 6½ and 7 fathoms water: from thence to the mouth of the River Lagos you meet with no inhabitants; the whole coast, from Appee to the latter place, being low, marshy, and very unhealthy. It is bordered all along with palm-trees, and the landing is dangerous, on account of the high surf. Besides, it is much subject to heavy rains and tornadoes: these may be foreseen by the great thunder and lightning, with the rising of black clouds, which commonly precede them; then it is best to hand all your sails, except your foretail, which you may keep in the brails, to command your ship, and run before the wind during the tornado, for what you get is to windward.

Mr. Philabon says that, "Between Little Popoe and Badagry the coast is covered with negro-huts. Along the beach of the River Lagos the natives are very shy in coming off in their canoes. The entrance of the Lagos is very dangerous, having many rocks and a heavy sea breaking over them. There are two small channels between the reefs, but the western is reckoned the best."

Captain Horsley, of Liverpool, went up to *Lagos*, in 1789, and made a draught of the west end of *Cradoo Lake*. According to his description, the entrance is about half a mile broad, but reduced to a quarter by the banks that project on each side: it is known by a remarkable tree, which stands on the east point, and is called the Monkey Tree. On the west side is a small river, where vessels get supplied with wood and water. A little to the north-eastward of the Monkey Tree, lies a small town on the beach.

There begins Lagos Island, five miles long, and 1½ in its greatest breadth; at the north end of which is the town of *Echo*, or *Ichoo*, named *Lagoa* by the Portuguese, and *Lagos* by the modern navigators, where a good trade is or was carried on: there is good anchorage all before it. From the entrance, the west channel, up to the town, is above half a mile wide, between the island and a sand, dry at half-ebb, called *Pelican Bank*.

The Old English Pilot describes the entrance and channel in the following manner:—"This channel alters five or six times in a year; for sometimes it is deep on the west side, then on the east side, and sometimes in the middle; but, when at shoalest, you have seven or eight feet water.

"In coming in, you must take care that you be not overset by a rolling sea, keeping to the eastern shore, (whether you come in or go out,) because it always breaks very much upon the western shore: but within there is depth enough for sloops and yachts.

"It flows here (meaning the part above Pelican Bank, above-mentioned) much sooner than it ebbs, and it falls about six feet up and down: the ground is muddy above, and sandy below."

About four miles to the eastward of the entrance, or the English Road, lies the *French Road*, and the watering-place: the goods which are landed there are carried across the beach to the lake, and thence in canoes to the town of Ichoo. An East and E. by S. moon makes high water here.

Cradoo Lake extends about 15 leagues, from west to east; its greatest breadth not being above two leagues: on the north shore is the town of *Cradoo*, 12 leagues from the entrance, and belonging to the province of *Jaboo*. This is a large town, surrounded with palisadoes, and an extensive trade in slaves and teeth was formerly carried on here by the Portuguese. A great number of cotton cloths are manufactured at Jaboo and its neighbourhood.†

From Lagos River, the shore runs about 27 leagues to the eastward, with very slight inflections, and a sandy strand all along; within land, about 1½ league from the shore, and almost parallel to it, runs the river or creek, which, from Benin River, comes into Cradoo Lake. Two towns only, and some straggling houses, are seen on that shore, which is bordered with trees for about 18 leagues, or as far as the east end of Cradoo Lake; then it appears naked, the trees standing farther inland, and along the creek. These are remarkable by being red-topped, and they go no farther than the sandy strand,

* The natives call Ardrah *Atatahasee*, or *Allatahasee*, and the country *Essuăm*, or the Great.

† In the interior, to the northward of the Cradoo Lake, in the kingdom of Kosie, the capital of which is described as a town of great extent, resembling Coomassie, in Ashantee. Canoes come from Kosie to Lagos. These canoes are very superior, in size and convenience, to those of the coast.

at

at whose end a tall spreading tree stands alone. There you may anchor at two miles from the shore, in 4¼, 5, or 6, fathoms.

All this coast, inhospitable and very little frequented, is, for the most part, drowned occasionally by the sea, or by the heavy rains in August and September.*

Mr. Bowdich has said that, an officer who resided at Lagos three years, the only one who has survived of those who have made the attempt, has informed him, that the Pelican Bank is much smaller than it commonly appears on the charts. The Doo Island, where the natives go to make fetish, lies to the N.W. of Lagos, and is about a mile in circumference. The beach, over which the Portuguese and French transport their goods to the canoes, is not more than 100 yards wide.

The River Lagos falls from the north into the west end of the lake, as represented on the Chart, and is of great breadth, having 10 fathoms of water near the entrance. Its current is impetuous, and floating islands, with large masses of alluvial matter, come down with such force, in the rainy season, as to trip vessels, in the English Road, from their anchors.

Mr. Finlaison says that, in running towards the River Benin from the River Lagos, the water, in general, had a dark green colour, and was more shallow than on any other part of the coast. Until they opened Benin River, the current set to the eastward; it then set N. by W. to Cape Formosa.†

The entrance of the River Benin‡ is situated in latitude 5° 40′. Captain Matthews says, "It has a bar of very hard sand, stretching right across, about two leagues off, on which I never found more than 13 feet water, nor less than 8 feet, at spring-tides. In the rainy season the sea runs very high, and breaks quite across: when going over it, I always had the dead lights lashed in, and an anchor hung over the stern, to let go occasionally, and to prevent the ship coming broadside to the sea, in case you should be so near the ground as to lose the use of her rudder; but I never was under the necessity of making use of it, always getting in and out without touching the ground; although, at times, I had very little water to spare."

River Benin, named by the Portuguese Rio Formosa, or the Fair River, is about two miles§ wide at its entrance. It is famous for abundance of yams, plantains, and fish. When you go over the bar, having first brought the north-west head to bear E.N.E., steer right in for the river, keeping this head open on the larboard bow; when over the bar, you will have soft ground, and gradually deepen your water; you may then edge over near to the middle river; and, when once entered, steer for a point on the starboard hand, called the Jo Point, (or bluff point,) keeping it a little open on the starboard bow: abreast of this point, you have deep water close to it, and on its pitch there is a tree, which projects much over the water: when you have passed this point, you will open a creek on the starboard side, called Jo (or Calabar) Creek. Continue your course up the River, keeping the starboard shore on board, in order to avoid a mud-bank, that stretches from a creek on the larboard hand, near two-thirds of the river over: two small islands are seen at the entrance of that creek; and, when you are above these islands, you cross over for the larboard shore, steering for a point, called *Regio Point*, opposite which come to an anchor, if you do not choose to go up with your ship.

* The following note may, perhaps, not appear improper in this place:—

From Sherbro to Rio Formosa, or River Benin, (which is the part of Africa with which Europeans are best acquainted,) a tract of 1400 miles of sea-coast, there is not one navigable river, bay, or harbour, into which a ship can enter; nor is there one river or creek, (the Volta and Lagos excepted,) into which a sailing-boat can advance ten miles from the sea; very few of the creeks will even admit a boat; and not one on the Gold Coast, except at Chama and Elmina: a small boat may row up the former about two miles, and up the latter about a quarter of a mile.

The shores are, almost in every part, difficult of access, from the heavy surf which breaks upon the beach; it is scarcely possible to land any where but in a light canoe, and even in that way it is frequently impracticable for many days together: in many parts, besides, there is, near the shore, scarcely water enough for a canoe; and the breaking of the waves becomes there so impetuous, that all communication between the shore and the shipping is frequently interrupted for three weeks together, and can seldom be effected with safety.—*Dalzel.*

† The general direction is to the S.E. and S.S.E.——Edit.

‡ The first Englishman who entered and went up this river, was Thomas Windham, in 1553, in company with Antonio Anes Pinteado, a native of Porto, in Portugal, appointed chief of the expedition. They traded there for malagette-pepper.

§ See the particular plan of the river, on the Chart of the Windward and Gold Coasts.

This point lies at the conflux of Gato (or Regio) Creek, where the factory is kept, and the River Benin. In going up this creek, you keep the starboard side on board, till you come to an island called Deadman's Island, which is to be left on the starboard hand: there is a passage between it and the main, about forty or fifty yards wide. When above the island, you steer over for the starboard shore, and keep that side on board all the way up to Gato (or Agaton). That town* is situated on a rising ground, on the starboard hand, about a quarter of a mile from the creek, which is very narrow here, there being just room enough to paddle your boat up: I always bought paddles for that purpose, otherwise I might have lost my way, as there are a number of creeks on the larboard side, but not one on the opposite side.

The land on both sides of the river, all the way up, is overflowed in the rainy season; and no dry land is to be seen till you come to Gato, only at the entrance of the river, where there are two fishing-towns, one on each shore.

An east and west moon makes full sea here; and the tide rises and falls about 6 feet. The Old Pilot has noted that it flows in three hours, but ebbs in nine. The rapidity of the tide, in the rainy season, very often carries away marshy fields, of some acres in extent; you must be careful to steer the ship clear of them, otherwise, should they come athwart her, they will give you a deal of trouble.

BENIN RIVER *to* CAPE FORMOSA, *and across the* BIGHT *of* BENIN, *to the same Cape. With a Description of the Coast of* WAREE.

FROM Benin River to Cape Formosa, the course is South, and the distance 29 leagues. In 20 and 24 fathoms, is muddy ground, most of the way, but out of sight of the land.

Captain Matthews says, "In stretching across the Bight of Benin, from Cape Three Points to Cape Formosa, in the month of September, which is the rainy season, and when the current runs strong to the N.E., my course was S.E. by E., and I could just hold my latitude. After running 434 miles, by the log, I saw Cape Formosa, bearing North; at the same time saw a creek open, with low land on the west side, and a high steep bluff on the east side. From thence the land, running to the eastward, seems very level."

The COAST OF WAREE, named likewise *Awery*, or *Oere*, extends from Benin River to Cape Formosa: the Portuguese used to trade on this coast, which, latterly, is very little frequented: it is a low swampy land, bordered with a sand-bank, that renders its approach dangerous; the inhabitants are thinly scattered, and it is intersected by many creeks, the best known of which are the following:—

Rio dos Escravos, or Slaves' River, lies about 4½ leagues S. by E. from Benin River: there are only two fathoms water in the entrance; and, off its south point, the bank stretches a good way into the sea. This river communicates with that of Waree.

Rio dos Forçados, or Galley-Slaves' River, called also River Waree, lies three leagues to the S. by E. of the former: it is wide, with an island at the entrance; and, in the fair-way coming in, are 12 fathoms, anchor-ground, but only two fathoms in the entrance. On the south-east side there is a flat, stretching 1½ league from the land; and another on the north side, of the like extent; both which you avoid in running easterly into the river. It is known by the two high trees which stand on the south-east shore. The town of Poloma is situated a league within the river, and formerly the Portuguese had there a factory, with a church. Five leagues above this town is the city of *Waree*, or *Oere*.

Six leagues South of the River Waree is Rio dos Ramos, or Boughs River, whose entrance resembles that of the preceding river, and has deceived several ships. Those that have unfortunately entered the Rio dos Ramos have been lost, and the men either

* It is very large, and well defended, on one side by palisadoes of thick trees, and on the other by a hedge of brambles, before a deep ditch: the king resides sometimes here: the city of Benin lies 10 leagues to the N.E. of it.

swallowed

swallowed up by the sea, or murdered by the wretched negroes, who are very ferocious here.

About four leagues farther South is River Dodo, which is less known than the rest. From hence, nearly in the same direction, the coast, always low and full of trees, runs 11 leagues to Cape Formosa.

Cape Formosa lies so very low, and even with the water, that the trees upon it, appearing at some distance like a sail, seem to stand in the sea: you will see them before you descry the land; but, in 15 fathoms, you can see neither trees nor land. At six or seven miles from the cape, the depth is five and six fathoms.

In the months of July and August, there is always, about this cape, a strong current to the eastward; so that it is proper, when you sail along this coast, to keep off as far as you can, and not to go nearer than in eight fathoms, which is about two or three leagues from the land. The bottom is so deep in mud here, that you can hardly get your lead out of it.

The BIGHT *of* BIAFRA; *with its* RIVERS *and* ISLANDS.

THE Bight of Biafra, is that part of the sea which, receding to the eastward, between Cape Formosa and Cape Lopez, includes the Isle of Fernando Po, with Prince's Island, and that of St. Thomas, &c. The coast stretches to the eastward about 60 leagues, from Cape Formosa, to the mouth of Delrey River; thence, taking a southerly direction, it runs about 112 leagues to Cape Lopez.

CAPE FORMOSA *to* BONNY RIVER *and* NEW CALABAR. *(By Captain* JOSEPH MATTHEWS.)

HAVING descried Cape Formosa, bearing North, as already noticed, I saw, at the same time, a creek open, with low land on the west side, and a high steep bluff on the east side. From thence the land, running to the eastward, seemed very level, to another river; this is called the First River: it has, on the east side, a high steep bluff point; and a lower one on the west side, with a remarkable low point running from it, which shuts when bearing N. by E.

We must observe here, that the small creek next to the cape is not always seen; and, moreover, that First River is called Nun River by the Portuguese, who gave the name of Cape Nun to its west point, and of Cape Tilana to the east point.

In crossing this river, (continues the journal,) we had very muddy water, seven fathoms; saw the sea break quite across its entrance, and breakers a mile farther out: we descried, besides, a remarkable high tree, about one mile from the eastern side of the river.

The Second River opens, when bearing N.E., with a high bluff on each side; the eastern one being remarkable by several round-topped trees. When this river bears N. by W., there is the appearance of an island, with four trees on it, the westernmost being the highest, and so tapering to the eastward.

At 7 *p.m.* came-to in 8½ fathoms, soft muddy ground. At 6 *p.m.* weighed; and, at 8 *a.m.* opened the Third River, with a tapering bluff on the east side; and low land seemed to cross the river within, with little round-topped trees on it.

The Fourth River has something remarkable, as it appears with the west point low, and does not open till it bears N.N.E. then the easternmost bluff shows like a Dolphin's Head, with the mouth open.

At noon, I was abreast of the Fifth River, about which the land is low: it has two bluff heads; on the west side of which stands a tree that projects over the water, and the river seems to be large, running a long way up the country.

At 3 *p.m.* saw the Sixth River, called Sombreiro, which begins to open when bearing north-westerly, and makes with a large tapering bluff: at the same time descried Foché, or Foko, Point east from us: it is a very steep bluff, perpendicular, with a tree projecting

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ing rather over at the top. When it bore N.E. saw a tree,* appearing like a sail, off the point. There, off the deck, is seen no land to the eastward of Foché; but, from the mast-head, Rough Corner is perceived, bearing N.E. easterly.

The Sombreiro Bank, of hard sand, beginning at the mouth of this river, extends to the eastward of Foché Point, and stretches two or three leagues into the sea.

At 5 *p.m.* the gap in Foché bore North, just beginning to open. At 6 *p.m.* Foché bore north-westerly. Came-to in 7½ fathoms.

N.B. When Sombreiro opened, Foché bore N.E. by E.; and when Foché bore north-westerly, Rough Corner bore N.E. by N.

When you have run so far as to bring Foché N. ¼ W. and Rough Corner N.E. by N., you will have 5½ fathoms, and then may come to an anchor, if it be not a proper time to go in.

Rough Corner is the south-east point of the entrance of River Bonny. When you have brought Foché and Rough Corner to the above bearings, a N.N.E. course will bring you to the Baleur Head, (a patch of hard sand,) which you leave on the starboard hand. Then steer N.E., keeping Rough Corner a little open on the starboard bow; and when you have passed it, steer up the river, keeping rather the starboard shore on board, and it will carry you to Bonny; there you come to an anchor, opposite a sandy point, at the entrance of a creek leading to Bonny Town, on the starboard hand, which town is situated above three leagues from Rough Corner.

Your going into the River is over a long flat of sand; you will carry 3½, 3¼, and 3, fathoms, all the way to the Baleur Head; and when you get that length, Foché will bear W.N.W., and you fall immediately into eight fathoms.

You may venture to go in at any time of the tide, if you have *wind, clear weather*, and *day-light*. I would recommend to have a man at the mast-head, to look-out; the western breakers will direct your going in; and, if it blows any wind, nothing can hurt you but what you may see.

If you are bound to New Calabar, you enter the same way, and come to an anchor under the western breakers, till you send for a native pilot from Foché, who will conduct you over the flats into that river.

The course I steered, from Cape Formosa to Foché, was E.S.E. ½ E., running along in eight fathoms, muddy bottom, about three or four leagues from the land; the distance is about 38 leagues. I would advise not to run in that course farther than the sight of the land a-head, in the evening, but come to an anchor; for several ships, by running in the night, have passed Foché unseen, and got to leeward.

When at an anchor, Foché bearing N. by W., and Rough Corner N.E. by N., in 5½ fathoms water, I found the latitude to be 4 deg. 11. min. North.

An east and west moon makes full sea here, and the tide rises and falls about six feet in the river; the flood sets in N.N.E. as far as the Baleur Head; but when shot past that, you open the Portuguese Channel, and the flood, through that channel, taking you on the broad-side, will chuck you over to the N.N.W., towards John of Bonny's Flats: these you must be aware of, as they are steep-to, and have been fatal to several ships, as it was formerly a custom among the natives to board any vessel that had the misfortune to run aground, and to claim her as their own property.

The ebb sets out in a direction quite contrary to that of the flood.

The anchoring-ground, without the bar, is strong holding-ground, sand on the surface, with clay underneath; and you will find it difficult to purchase your anchor; in this case, it is necessary to have a long buoy-rope, and, before you come short, that rope being got on board, and brought to the windlass, will haul the anchor out of the ground with ease; otherwise you may lose it, as the sea sometimes runs high and short there.

Mr. Finlaison's journal states that, Cape Formosa lies in latitude 4° 18′, and longitude 6° 6′. Variation, 22½° W. It may be observed that we place the Cape in 5° 30′ W.

* This is probably the tree which, in another point of view, appearing to the Portuguese like a man with his hat on, made them choose the name of Rio de Sombreiro, or Hat River. We must observe, they called the first river, River Nun; the second, River Tilana or St. John; the third, River St. Nicolas; the fourth, River St. Barbara; the fifth, River St. Bartholomeo. The coast, from Cape Formosa to Foché Point, is very even, with a sandy strand, and uniformly covered with mangrove-trees; and the rivers, being themselves pretty much alike, our seamen know them only by their numerical order (the first beginning next to the small creek near Cape Formosa); and, to avoid any mistake, these rivers are counted one after another, in sailing along the coast. Mr. James Penny observes that "All these rivers are narrow, none of which opening wider than two points by the compass. Bonny River, alone, opens near four points. On the coast, there is generally a strong current, setting to the eastward 1½ mile or more per hour."

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(*See page* 3,) but without pretending that it is *determined*. The same journal adds, that those bound to the River Bonny or Calabar River, when running for Cape Formosa, should keep in the latitude of 4° 10′ N., and no further to the northward. If in the day-time, you may advance as near as you please, in 5 fathoms. On running along shore, at low ebb, thick clay-coloured water will be found at the distance of 6 or 7 miles from shore. With high-water, it does not thus appear more than 4 miles off.

"If bound up Bonny River, make Sombreiro, or the Sixth River, and you will be certain where you are, for it does not open until it bears N.N.W.

"A vessel drawing 12 or 14 feet of water may proceed up Sombreiro River, it having a channel one quarter of a mile broad; the least water we found was 3 fathoms, in a N.E. by N. direction; the reef in a line bearing S.E., the west point of the river N.W. 3 miles, Foché Point East. I was then in mid-channel between the reefs, and would have proceeded further in, had I been allowed.

"After leaving Sombreiro River, you will find a shoal, which will oblige you to haul off a point or two; but, with day-light, you will see Foché Point before you get that length. The best anchorage off Bonny River is with Foché Point bearing N. ¼ W., and Rough Corner N.E. You will then be in the fair-way to cross the outer bar. The least water we had in coming over the outer bar, with one of our prizes, was 3½ fathoms."*

INSTRUCTIONS *for sailing to* BONNY. *By Captain* THOMAS CLARKE, 1790.

"On Saturday, 17th October, at meridian, saw Cape Formosa bearing E.S.E. distance 3 leagues. At 2 *p.m.* passed a creek, the land very low on the west side, rather bluff on the east side, but afterwards quite level to the First River, which we passed at half-past six *p.m.* This river opened when bearing N.N.E., and there appeared breakers about a mile without the entrance.

"At 7 *p.m.* came-to for the night. At 5 *a.m.* got under weigh. At 7 ditto, opened the Second River, bearing N.E. with a bluff on each side. At 10 ditto, opened the Third River; supposed this river to alter its course very soon, as some very low land appeared to cross it almost at its entrance; we were running in 7, 7½, and 8, fathoms.

"At 3 *p.m.* on the 17th, passed the Fourth River; this opened at N. by E. ½ E. At 4 *p.m.* passed the Fifth River, and saw two canoes; this appears a large river. At 6 ditto, saw Foché, bearing N.E. by E. At 7 ditto, came-to in 8 fathoms, Sombreiro River just opened at N. by W., there is a reef which runs off some distance from its entrance.

"Foché makes with a very high steep bluff, and you cannot mistake it, as no land is to be seen to the eastward from the ship's deck; but from the mast-head you may see Rough Corner.

"If it is not a proper time to go over the bar, run along until you bring Foché to bear north, westerly, and then come-to in about 9 fathoms. In running in this time, I had light steady breezes, and clear weather; all the marks very plain, and the Baleur, as well as the Western Breakers, shewing themselves.

"When Foché bore north, westerly, steered N.E. ½ N.; Foché N. ½ W., continued steering the same; Foché distant about 4 miles. At 45 minutes past 10 *a.m.* Foché N. by W. quarter-less 3 fathoms. At 11 ditto, upon the Outer Bar, Foché N. by W. westerly; Rough Corner N.E. ½ N.; steering N.E. 2½ fathoms. At a quarter-past 11 ditto, Foché Point N.N.W. 3½ fathoms, steering N.E. ½ N. At 45 minutes past 11 ditto, upon the Inner Bar, Foché then bearing N.W. ½ N. steering N.E. quarter-less 3 fathoms; Rough Corner then N.E. northerly; the Big Tree N.E. by N. When over the bar deepened our water immediately to 6, 8, and 10, fathoms. At noon, we were at the North Breaker's Head. Observed at half-past 11, when Foché Point bore N.W. by N. that Rough Corner bore N.E. by N.; Andony Point E. by N.; and the big tree upon Peter Fortis's Land N.N.E. ½ E. As near as I can judge, the entrance into Andony River is about 6 or 7 leagues from Andony Point.

"N.B. The variation of the needle was then 20 deg. west."

* A particular plan of Bonny River is given on the Chart of the coast from Cape Formosa to Cape Negro.

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DIRECTIONS *for* OLD CALABAR. *From Captain* PATRICK FAIRWEATHER, 1790.

"THE compass course, from Foché to the entrance of Old Calabar River, is E. by S. 23½ leagues, in 10 fathoms water, soft oazy ground. The land is low, and covered with trees, with a white sandy beach, on which are some straggling houses, but they cannot be seen, unless you are in 4 fathoms water, which is too near for a ship to venture, especially in the night.

"When you get the length of the river's entrance, the water shoalens to 7 and 5 fathoms, hard ground. You will then see the East Head, bearing E.N.E., which is high and steep, and will continue to stand on to the eastward, until it bears N.N.E., and you find the ground soft; then haul in north, bordering on the hard ground.*

"When the East Head bears E.N.E. you will see Tom Shot's Point, which is the west point of the entrance, and bears N.N.W. about 4 leagues from the East Head. Steering up North, or N. by W., you soon descry Parrot Island; keep then away in 4 fathoms, soft ground, towards the mouth of Qua River, and you deepen the water to 5 and 6 fathoms: then you perceive, to the northward of Parrot Island, a head of land, called Tobacco Head, which, keeping open, you will run up in about 3, or quarter-less 3, fathoms, within 2 miles of the island. James Island being then seen on your starboard hand, you steer along Parrot Island about half-way up, and stand towards the upper part of the former, when you will cross in 2½ or 3 fathoms water, which you deepen to 4 or 5 as you go on. The points of James Island and Parrot Island open about a sail's breadth, until you come to Seven Fathoms Point; then, as you stand on to the eastward, you will see the ships lying before the Old Town. Keep across the river, from the last-mentioned point to the lower part of the *tall trees*, and stand close to them till you are abreast of Henshaw's Town, then cross over to the place of anchorage.

"Three leagues to the eastward of the East Head, lies Backasey Point, which is the west head of Delrey River's entrance. The name of Backasey is also given to the narrow land which terminates between these heads, and is known by a *Gap*, that becomes a mark for both rivers. Delrey River is the Rio del Rey, or King's River, of the Portuguese; its entrance is as broad as that of Old Calabar; the channel is wide, and clear of dangers, with 3½ and 4 fathoms water, muddy ground, from Backasey Point to Delrey Point, 4 or 5 leagues up, where it begins to grow narrower."

"This river (says the Old English Pilot) affords abundance of large elephants' teeth, which they commonly barter for copper-bars, counterfeit coral, beads, knives, &c.

"The country, far and near, is all low and marshy ground, affording little or no fresh water.

"Here a European must look well for himself; for the inhabitants are so subtily mischievous, that you will be betrayed before you are aware; and they are so barbarously cruel, that the parents sell their children, the husband his wife, one brother and sister the other; and, in decency and order, are scarcely a degree above the beasts."

This description was written in the seventeenth century, and we do not find that the inhabitants have improved since that time.

DIRECTIONS *for the* RIVER CAMAROONS.† *By Capt.* LATHAM.

I would advise those bound to the River Camaroons to run down in latitude 3 deg. 38 min. for the north side of Fernando Po Island; and from the north-east Point of it, they should steer S.E. ½ E. 11 leagues, which will carry them well in with the Cape, and they will then see the opening of the river.

* See the particular plan on the Chart of the coast from Cape Formosa to Cape Negro.

† A corruption of the name given by the Portuguese, who called this river Rio dos Camaroens, or River of Shrimps, of which there is great abundance in all the creeks and rivers in the Bight. A particular plan of the Camaroons River is given on the Chart of the Coasts from Cape Formosa to Cape Negro.

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When you get the True Cape to bear East, run for it, giving it a berth of about two miles, to carry you clear of the spit which runs off from it.

This being done, steer about S.E. by E. ½ E. in a direction for Malimba Point, till you are well abreast of Green Patch Point; then you bring the Ragged Trees to bear E.N.E., and run directly for them till you are over the flats, which you will know by deepening your water to 3¼ and 3½ fathoms, and this is called the Old Hole.

Then bring Enguias Point, which lies on the north side of the river, about two ships' length without the bushes, at the water's edge, below Mungo Creek: this mark carries you clear of the Middle Ground, and within a musket-shot of the north shore at Ragged Trees, or Gallows Point.

When you are about two miles above the said trees, steer more for mid-channel, keeping the Gap up the river open about a sail's breadth; then you may run up to the road, giving Doctor's Point a berth; this runs off a musket-shot from the south shore; and, about 1½ mile above it, you come to an anchor, in five fathoms water.

N.B. It flows, at the road, at six o'clock, full and change; at the cape, at 5½; and rises eight or nine feet, spring-tides.

Directions for the same River, by Capt. Matthews.

On a voyage bound to the Camaroons, I took my departure from Cape Palmas on the 16th of July, which is about the middle of the rainy season, and when the current sets very strongly into the bight, and steered S.E. ½ E. and S.E. by E. for the Island of Fernando Po. After running about 320 leagues, I saw it, and at noon had a good observation, latitude 3 deg. 46 min. north; the body of the island bearing south, about four or five leagues.

From the north-east part of it, I steered S.E. for Cape Camaroons: there are soundings all the way; I hove several casts of the lead, and found 35 fathoms, muddy ground: as we came near the cape, we shoaled our water gradually; when at an anchor, in 18 fathoms, muddy ground, the cape bore E. by S. about four leagues distant.

When you are going into this river, bring the Cape to bear E.N.E., and steer in for it, keeping it a little open on the larboard bow.

Remarks.—Going in, at 2 *p.m.* got under weigh, and steered for the cape, which then bore E.N.E., keeping it open on the larboard hand: when within 2 or 2½ leagues of the cape, came to a flat of hard sand, over which I carried 5½ fathoms.

At 6 *p.m.* being dark, came-to in seven fathoms water, soft ground; the cape bearing E.N.E. ½ E. At 2 *p.m.* got under weigh, with flood and sea-wind, and steered S.E. by S., carrying seven and eight fathoms, soft ground, all the way in. At half-past 3 *p.m.* came-to in 7 fathoms, Sandy Island open a cable's length to the eastward of Buff Island, and Green Patch Point, which is on the north side of the river, bearing N.E. by E. Sandy Island is an islet with only a low bush or two on it, within, and on the starboard or south side, of the river.

At 1 *p.m.* got under weigh, with the last-quarter ebb, and a strong sea-breeze, and steered S.S.E. till Sandy Island opened out to the westward of Buff Island; then steered E. ½ N. to open the Four Heads in Old Hole. When Green Patch Point bore N.N.E. the heads began to open, and so soon as we brought the Ragged Trees to bear E.N.E. ½ E. we stood for them, having no less than three fathoms, soft ground, over the flat.

Being within a quarter of a mile of the Ragged Trees, we steered to the E.S.E. for the starboard shore, for Addoo's Landing-place, where you will see red rising land, above which we came-to in 4 fathoms, soft ground. The water is fresh here at low water, and you are about 7 leagues above the cape.

River Camaroons is about four leagues wide at the entrance, between Cape Camaroons and Buff Island; on both sides the land is very low, with high trees growing on it.

An east and west moon makes high water. I observed the tide to rise six feet, and the ebb to run five miles per hour.

DESCRIPTION *of the* COAST *from* OLD CALABAR *to* PANNAVIA BIGHT, *and thence to* CORISCO ISLAND.

In sailing from Backasey Point towards the High Land of Camaroons, you steer S.E. over a slimy muddy ground, in four or five fathoms, along the shore.

From the Rumby Land, which lies opposite to Backasey Point, to the bottom of Pannavia Bight, the coast runs to the S.E. ½ E. 35 leagues.

Between 15 and 16 leagues from the Rumby Land, is Old Camaroons River, or Rio Pequenho, of the Portuguese; its entrance is known by the small Island of Bimbia, which is about one mile in length, S.E. and N.W., and lies half a mile from the shore; you may anchor there in 16 fathoms, abreast of its north side, and opposite two villages on the main; the watering-place is on the west side of a small cove, a little more than a mile to the north-eastward of the anchorage.*

The three small islets, named the Amboizes, lie about three miles to the northward of Bimbia; and half-way between them and Rumby Land appears the mountain, known formerly by the name of Amboize, but which is now called the High Land of Camaroons. It is a volcano, whose height, according to Dapper, in his 'History of Africa,' is equal to that of the Peak of Tenerife. Mr. Norris has given the following view of this volcano, taken from Bimbia, 7 or 8 leagues distant:—

Gibraltar Rock.

From Buff Island, lying off Point Snellaba, or the South Point of Malimba River, which makes the south entrance of Camaroons, the coast runs 10 leagues S. ¼ E. [*S.S.E. ¼ E.*] to the bottom of Pannavia Bight; there you can safely anchor, near the shore, in four or five fathoms, soft muddy ground. In this run you descry River Borea, six leagues from Buff Island, which is passable in boats only, and will see many forests of palm-trees, that cover the high land.

From Point Garajam, known by its cascade, at the south end of Pannavia Bight, the coast, taking a direction contrary to that it had before, stretches to the S.W. ¼ S. [*S. by W. ¼ W.*] 34 leagues, and as far as Cape St. John.

River Campo lies about 13 leagues from Point Garajam; the coast between the two is low, and covered with trees, except within three or four leagues of the point, where the land rises into naked hills.

River Campo is known by the two mountains to the northward of it, five or six leagues inland, and named, after their shape, Saddle Hill and Table Hill; the latter is the southernmost. On the south point of the river lies a shallow stone-bank, that appears at low water, and on which the sea breaks with great violence.

Four leagues and a half from River Campo lies the small Bight or Cove of Bata, wherein there is good anchoring-ground, in 6, 5, and 4, fathoms; as also good ballast and fresh water. A few houses, close to the water-side, are scattered along the shore, which is very low and woody, and whose strand is seen at low water. From hence you descry the Seven Hills, lying in a row from *N.N.E.* to *S.S.W. true*, about six leagues inland; the middle one is the highest, and they have nothing remarkable but their ill shape. Some of them (says the Portuguese Pilot) have the appearance of elephants.

River St. Benito (properly St. Bento) lies 10 leagues S.W. ¼ S. [*S. by W. ¼ W.*] of River Campo; it has three and four fathoms in the entrance, which is narrow, and four miles within it; the north point is remarkable by a great hill, called the Heybern; the south point, about two miles from it, is steep-to, and a reef extends along the coast, with some rocks above

* See the particular plan on the Chart of the Coasts from Cape Formosa to Cape Negro.

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and under water, to the inward of the river: this coast is all covered with trees, nor are you far from it when in 18 and 20 fathoms of water.

From River St. Benito the coast makes a small bight, whose beginning is known by a high mountain, about seven leagues inland, and which, from its form, is known by the name of Mitre Hill. It trends about 11 leagues *South, S. by W.*, and *S.W. true*, to Cape St. John; half of it is low and woody; the other half, ending at Cape St. John, is rocky. The Cape itself, surrounded with a ridge of rocks, has no beach; and, two or three miles off its pitch, lies a small stony bank, with seven or eight fathoms water on it. The streams meeting here with impetuosity, caused by the great unevenness of the ground, the water, which comes from the south, beats violently against the Cape, and then runs swiftly along to the northward.

Cape St. John lies at the entrance of the River of that name, called by the Portuguese, Rio da Angra (River of the Creek), and more commonly known by the name of River Dangra.* Its channel is from 3½ to 3 miles wide, for about 12 leagues; and the bar, which lies half-way, has 12 feet water; within and without it you find from 8 and 7 to 5 and 3 fathoms, all soft ground. In sailing from the cape, the course in is E.S.E. till past Corisco, keeping, as you run along, in the mid-channel; then you come abreast of the Mosquito Islet, where you cross the bar, and, about 2 leagues farther, you come to an anchor before the town of Angra, in five and six fathoms water.

The Isle *of* Corisco (or Thunderbolt Island) lies two leagues S.S.W. from Cape St. John; it is about four leagues long from N. to S., and two leagues from east to west. Towards the sea-coast it is, in general, sandy, except on the north-west side, where you find it full of stones; but within it is overgrown with high trees, and the land is so low that the trees seem to stand in the water. In coming from the sea, you must not approach it nearer than in nine fathoms, as a stone reef runs off from the south and west sides. When you sail through betwixt the cape and the island, you find shelvy and gravelly ground near the island, and stony bottom near the cape.

The Coast *from* Corisco Island *to* Cape Lopez; *including the* River Gaboon.

Two leagues to the eastward of and within Corisco Island lies Little Corisco, a small island, with a reef, which, extending a league to the westward, reduces the channel to half its breadth. In sailing down Rio da Angra, to the southward, you may go through between Corisco and the main land, southerly from the river, where there is a hard and swift stream, with a depth of water from five to six fathoms; but, in coming out of this crooked channel, great care must be taken in order to avoid a bank of breakers, which lie between Cape Esteiras and the south point of the island. When you are so near the east side of Corisco that half the island extends nearly south and north, with the high trees on it standing S.W. from you, there you find good anchoring in 4½ fathoms, with fresh water and plenty of wood. An easterly moon makes high water in Rio da Angra.

Cape Esteiras, which is the south point of Rio da Angra, lies three leagues south from Corisco, and nine leagues from Cape St. John. In the Bight of Esteiras, which lies to the southward of the former cape, you may safely come to an anchor. From this bight to Cape Clara, the coast trends *South*, true, five leagues; it is bold and full of trees, and you have all along from 10 to 8 fathoms.

Cape Clara, the north point of the River Gaboon, is a bluff head-land: Round Corner, which is looked upon as the south point of that river, is known by its peak, and lies 5½ leagues S.S.W. [*South*] from the former: Sandy Point is three leagues to the E.N.E. of Round Corner, and about four South from Cape Clara. The entrance of the river between this cape and Sandy Point, has two shoals, lying in a N.W and S.E. direction.

The stream sets very strong in and out, on the north side of Gaboon, near the high land, the flood running E.N.E., and the ebb S.W. and S.S.W. into the sea.

In coming from the northward, when in five or six fathoms, then you have fair ground, and are a good way from the land; you may, even by night, come as near Cape Clara as you please, but it is not advisable to ride there nearer than in 10 fathoms. When

* The seamen of the last century called it River Anger, others River Danger.

you sail towards the river, you will find that the bottom is rocky, and so uneven, that at once cast you will have 15 or 16, and at the next only 5 or 6, fathoms; but the space is so wide, that you can receive no hurt; then you are to keep S.E. and S.E. by E.

Mr. Bowdich, in his narrative of the Mission to Ashantee, has introduced some copious notices on the River Gaboon and the country in its vicinity. He says that the entrance of this river is placed by some in latitude 30 min. north, longitude 8° 42′ E., by others on the equator, and in 9° 23′ E. He adds, the former longitude is certainly the more correct, judging from three reckonings of the vessel in which he visited the river. Mr. Bowdich considers Cape Clara as in latitude 30 minutes north, while we have given it as in only 27 min. *(see page 3,)* and he has given the distances to several points up the river, which we cannot help suspecting as being considerably too great. It is much to be regretted that there is yet no Chart of this river which can be recommended to the navigator.

From 22 to 25 miles up the river, according to Mr. Bowdich's description, lies Dambee or King's Island, and Embenee or Parrot's Island: the first, on which ships have been hauled to careen, is a mile and three-quarters in circumference, and uninhabited: the second is considerably larger, and has a village on a hill, where the ruins of a Portuguese fort are said to exist. Dambee is not more than a mile from Owéendo Point, where there is a large bight, and there is a larger one on the opposite side of the river. In the river are several large creeks.

At about 35 miles from the mouth, the river forms two arms; the one extends north-eastward, by a point called Ohlombompole by the natives of Gaboon, and Gongoloba by the Shekans or interior people: its entrance is about four miles wide. The other apparently extends *S.S.E.* true, by a point called Quawkau and Quanlie, by the two nations, and is about two miles broad.

The following directions have been communicated by Mr. Bowdich.—"Instructions for the River Gaboon, compiled from the log-book of the Lord Mulgrave, which has been laden in the river the three successive years she has been chartered as a store-ship by the African Committee, and beat into it this time: When standing for the river, from the southward, it is best to give Round Corner a good berth, as a shoal or sand-bank runs off between that and Sandy Point, and also in case of being becalmed, as the ground is foul and bad for anchoring. A channel goes in by Sandy Point, but it is rarely used but by small vessels. Leave Round Corner about three leagues, and stand over for Cape Clara, until you have the river well open, then steer for a bluff about two miles inside of the cape, where you will find from 8 to 10 fathoms water. You may stand in, until you are about two miles from the above point, and then steer up the river, keeping the north shore aboard, and steering for the highest land you see, which lies above Quaw Ben's Town. In mid-channel you will find nine fathoms, until you bring Sandy Point in a line with Cape Clara, bearing S.S.E. You are then in the narrowest part of the channel, which is not more than two or three miles wide, and your greatest soundings will be six fathoms. When you are well inside these bearings, you may haul from the shore at your leisure, and steer for Parrot Island. When athwart Quaw Ben's Town, and about five miles off shore, you will find 12 and 13 fathoms. In standing up from Quaw Ben's, give Prince Glass' Town a good berth, as a shoal runs off to some distance; your sounding will be from seven to nine fathoms; you may anchor on any part of the north side, without danger. Between Konig and Parrot Islands, is very good anchorage in seven fathoms, and a soft muddy bottom; thence to Abraham's Town, you will have from seven to four fathoms at low water; and small vessels may go a considerable way up the river, for there are three fathoms at Nänngo or George Town Creek, about 45 miles up the river. If you are turning into the river, when you are within the cape, stand no further off than in five fathoms; for, as you close the middle ground, the soundings are very irregular; you may have five fathoms, and, before the next cast, the ship may be ashore. The widest part of the channel is not more than 5½ miles, until you are nearly athwart of Quaw Ben's Town, when you may stand over to the south side, as you are then inside the bank. There is a very good watering-place at Rodney's Point. Ships unacquainted may anchor off the cape, and wait for the sea-breeze, which generally sets in before noon."

While the Lord Mulgrave lay in the river, completing her cargo, (red-wood and ebony,) Mr. Bowdich made many enquiries among the more intelligent natives as to the geography of the interior country, the results of which he has given in his book. He in particular visited Naango or George's Town, two miles up the romantic creek, Abâaga, about 45 miles

miles from the mouth of the river, and found the governor a very hospitable and intelligent native, who spoke good English. Here, also, he saw two young negroes, the sons of native rulers, who spoke and wrote French fluently. The one had been sent to that country for education, and the other, in his voyage to England, for the same purpose, was taken and carried to France, and generously educated and maintained by the owner of the privateer. Both remained in France upwards of eight years, before they were sent back to Gaboon, and both professed to be very anxious to return thither, depicting the native habits, not only as uncongenial, but disgusting to them. The native name of the country, which we call Gaboon, is *Empóongwa*. Mr. Bowdich considers its extent as only about 40 miles in length, by about 30 in breadth. Kings, he says, are numerous here, and scarcely comparable even with the petty caboceers of Fantee. The greatest trader, or the richest man, of every small village, assumes the title, and frequently suffers gross indignities from his subjects, from not having the power to punish them. The king of Naängo seems of acknowledged superiority, and is comparatively respectable, both in means and power; he is known to trading vessels by the name of King George. The brother succeeds before the son. The legislative and judicial power is vested in the governor, controlled by the king, who may order the death of a man; but, if he assigns no good reason, the offending party is generally allowed to retire elsewhere. All children share the property of the father in equal portions, except the eldest son, who has about half as much again as any other. If a man kills another, he has a public trial; and, if he cannot justify the act, which it seems he may in many instances, his own death is inevitable. If he kills one of his wives, (his rank is designated by the number,) he pays a fine to her family, who, and not the husband, are involved in all her palavers. The acknowledged heir to a property may bring a palaver against his father, or whoever may be possessed of it, for killing a slave unjustly, or otherwise injuring the property, and oblige him to make good the injury.

Observe that, from Parrot Island, a white sandy reef stretches off, which must be avoided.

The old Directions say, "If you would go from the trading town to anchor under Parrot Island, in order to clean or repair your ship, you are to run with the ebb right upon the island: upon a point on the north side of the land stands a large tree, that is to be left on the starboard hand, and you steer along between two stony points, dropping one anchor to seaward, and another towards the land; then you haul your ship on the ground at high water, fastening with your ropes to the cliff, two on larboard, and two on starboard.

"At this place the perpendicular rise of the tide is about eight or nine feet. From hence, running along close to the south point, which is steep-to, with deep water, you ride in 10 or 12 fathoms, and may be supplied with wood and water; you go away at night with the fore-ebbs, or in the morning with the land-wind, standing close to the shore, and come out at the point (Sandy Point), with a vessel of 10 or 12 feet draught, for you have two and three fathoms at a gun-shot from the land: as you run out by the shore, you will find three ribs, between which it is a fathom deeper; these lie athwart, between the point and the south corner (Round Corner) of the river.

"The bank on the south side of the river becomes less shallow every year; and the rippling upon it, being very strong, makes a prodigious noise with the ebb."

Remarks *made between* Camaroons River *and the* River Gaboon. *By Capt.* Matthews.

From Camaroons River to the southward the land is very low, with soundings a long way off; the bottom a hard sand, for about 12 leagues.

In latitude 3 deg. 4 min. north, the land forms a deep bay; for from thence the coast tends to the S.W., appears higher, and the shore bolder. Sounded in 15 fathoms, soft ground, about four miles from the land. Saw a high saddled hill S.S.E. *true*, from us; to the southward of the hill is a high long grove of trees.

Observed in latitude 2 deg. 46 min. North. Sounded in 39 fathoms, soft ground, about three leagues from the coast; here the land does not appear so high as before. About seven or eight leagues farther to the southward, saw two little round hills, like hay-cocks, at some distance from each other; and a high hill (the *Table*) bearing S.S.E., flat at the top, and tapering with gradual descent to the southward; hove a cast of the lead, and had 25 fathoms, soft ground.

Observed

Observed in latitude 1 deg. 56 min. North, high hills appearing inland, as far as we could see, to the southward, and the land still extending to the south-westward.

Observed in latitude 1 deg. 2 min. North. Saw Cape St. John, a pretty high tapering point; the land to the N.E. appeared in high round hummocks, and higher than the Cape.

In sailing along shore to the southward, saw Corisco, a long low island, which lies at the entrance of River Dangra. When past this you will find the land a good deal higher, and continues so to Cape Clara: this north entrance of the River Gaboon appears with a high bluff, the south point being very low and sandy at its extremity.

The course, from Cape St. John to Gaboon River, is S. by W. [*S. by E.*] or thereabouts, with regular soundings, all along, muddy bottom. When in 20 fathoms you are about five leagues from the land.

The Gaboon is a fine spacious river; the best way of going into it is by Cape Clara, within about a league of it; you will have fine regular soundings, from eight to four fathoms, sand and mud: when Sandy Point is brought to bear South, [*S.S.E.*] you may haul up for it, to come within a quarter of a mile of it, where you have 12 or 14 fathoms of water.

From Sandy Point a spit stretches in a direction of N. by W. [*N.W. by N.*], which reaches to about four miles off Cape Clara. If you are coming in from the southward, and stand to the northward to go round that spit, you will meet with very irregular soundings, from 7 or 8 to 5 fathoms, hard rock; two or three fathoms difference at almost every cast of the lead. There is an in-shore deep, between Sandy Point and the spit, which small craft make use of, as it keeps them so much to windward.

After you have shot within Sandy Point, keep the starboard shore on board till you are within a league of Parrot Island, which lies in the middle of the river; then cross over for the larboard shore, and steer for King's Island; you may come-to within a mile of it, in five fathoms, muddy ground; the land forms a bight here, and you are out of the strength of the tide.

The tide, as in the other rivers, rises and falls about six feet; and an east and west moon makes high water.

The COAST *from the* RIVER GABOON *to* CAPE LOPEZ.

FROM Round Corner the coast runs South [*S.S.E.*] 11 leagues, to the River Nazareth, consisting all along of white downs, with abundance of trees. Nearly two leagues to the northward of the river, lies the small island of Fanaes, very near the shore.

From the south point of the River Nazareth, which is known by a remarkable clump of trees, a flat stretches to seaward about three leagues, and forms a small bay, two leagues wide, between the edge of the sand and Fanaes Island, with three and four fathoms water; within it, this flat continues two or three leagues broad, along the shore, and extends to the bottom of Cape Lopez Bay, 13 or 14 leagues from the south point of Nazareth River; the whole shore being low and sandy, covered with trees and bushes.

You should be very careful in approaching this flat; and, with a large ship, not advance nearer than in 10 or 12 fathoms, but in a small vessel you may come within six or five fathoms.

Cape Lopez* lies 13 leagues S.W. nearly, from the mouth of the River Nazareth, and seven leagues west from the opposite shore, with which it forms the bay of its name. It is a drowned land, which, at first sight, appears all rugged, and with bushes that seem to stand in the water. It is steep on the sea-side, free from flats and reefs, and you may approach it as near as you please. From the pitch of the cape to the river at the bottom of the bay, the coast runs to the S.S.E. ½ E. 7½ leagues. Fetish Point, above which is the anchoring-place, lies three leagues from the mouth of the river; and, about three miles south of the point, is a fine pond of fresh water; near it are some palm-trees, abreast of which you can come to an anchor, and a beach of white sand, where you can likewise get good water by digging two or three feet.

When you are near the cape, you may steer S.S.E. as high as you can, to the anchoring-place before the river, or to the creek of the great tree, which, in coming from the cape, shows higher than the rest, but cannot be seen when you come from the eastward;

* The name originally given by the Portuguese is that of Lopo Gonsalves.

here

here you have another anchorage, in 8 or 10 fathoms, bringing your small bower to seaward, almost in 12 fathoms; but, in the months of June, July, August, September, and October, you need not moor the ship, as the wind blows always from the south.

When you come from the northward to Cape Lopez, you must take great care to avoid a sand-bank, which extends about two leagues N.E. and S.W. right in the fair-way; there are only two fathoms water on it, and it cannot be perceived but when you are very near it: for, about 1½ league from the north side of the cape, you will have 10 or 12 fathoms at one cast, and the next find yourself aground. But, if you always keep the cape on board, no danger is to be feared; and, when past it, or easterly from the cape, between it and the opposite main, having a little island on your side, you run into the Bight of Libatta, till you are beyond the small bank of white sand that lies off the watering-place.

In this place there is plenty of fish, but no mutton or beef. The negroes are very officious, and for the smallest trifle will supply you with water, wood, and fish.

When you are sailing from River St. Benito or Cape St. John, to Cape Lopez, always observe which way the *trovado* drives the water; and should you lie at anchor when it arises, you must weigh immediately, and get off; if it be in the morning, with a south-west or south wind, keep to seaward till noon, then stand again towards the shore, with a sea-wind; but, if the wind does not alter at noon, tack about for all that, and go to the shore, there to anchor in oazy, and sometimes sandy, ground; however, do not approach it nearer than 12 fathoms, for it is very foul; and, in the time of the trovadoes, the water runs about by the north.

ISLANDS *in the* BIGHT *of* BIAFRA, *&c.*

These islands are Fernando Po, Prince's Island, St. Thomas's, and Anno Bona, or Anno Bon. The first, Fernando Po, is very high, and commonly covered with clouds. In clear weather, it may be descried at the distance of 25 leagues. It is very populous, and produces abundance of sugar-canes, fruits, and provisions of all kinds. Seamen should, however, be on their guard, when landing any where for wood or water, or they may happen to be roughly treated by the inhabitants. The anchoring-place is on the north side, towards the N.W. end, in an open road, called the *North-west Bay*, where there is good ground in different depths, from 30 to 12 fathoms.

The following observations upon the islands in the bight, and upon the slave-trade lately existing hereabout, have been extracted from the '*Quarterly Review*,' dated October, 1821.

"Prince's Island, St. Thomas's, and Anno Bon, belong to Portugal, and are peopled by a sort of half-caste Portuguese and Negroes. Fernando Po is destitute of Europeans, and inhabited by a peculiar race, differing in manners, language, and features, not less from the other islanders, than from the negroes on the neighbouring continent. It was among the numerous discoveries, made by the Portuguese, towards the end of the fifteenth century; and, from its beautiful appearance, received from Fernaõ do Po, the discoverer, the name of Ilha de Formosa (Fair Island): this name, however, it soon lost; and, for the last three centuries, has been known only by that of Fernando Po. The Portuguese built a fort on this island; but, from some reason or other, shortly quitted it altogether; and, about the middle of last century, exchanged it with the Spaniards for the small island of Trinidad, situate at about 570 miles from the coast of Brasil, opposite to the bay of Espiritu Santo.

"The new possessors attempted to form a settlement upon it, but very soon abandoned the design, and the island together, alleging, as a reason, the ferocity of the natives.* Since that period, so rare has been even the casual visit of any European vessel, that the present generation of islanders had never seen one till the Pheasant sloop of war made her appearance there, in the beginning of the year 1821, when Captain Kelly was visited by a man of colour, a native of Martinique, who called himself Tom Dixon, but was certainly not a Frenchman. This man appeared to be about forty years of age, thirty of which he had passed upon the island. He had sailed from Philadelphia, as a boy, in the

* Mr. Dalzel says, "The Spaniards attempted to build a fort here, during the American war, but were *expelled* by the natives."——Ed.

Mary,

Mary, Capt. Anderson, for the River Bonny, to trade for palm-oil, and, on the homeward voyage, was wrecked on the iron-bound coast of Fernando Po: of twelve seamen, five only were saved, and of these he was the sole survivor, the rest having died several years ago. His language was that of the natives, mixed with a few words of French and English. Capt. Kelly offered to take him from the island; but this he declined, as he had two wives and a family of children, and lived happily among them. From this person Capt. Kelly expected to obtain much information respecting the inhabitants, and the state of the island, but he did not make his appearance a second time; being probably afraid lest he should be discovered and claimed as an Englishman; or perhaps prevented by the natives, from an impression that he, who was able to converse in some degree with the strangers, would get more than his share of knives and other articles, which were given in exchange for poultry, yams, and other species of provisions.

"The appearance of the island is extremely beautiful: its length from north to south is about 30 miles, and its breadth about 20. Two high peaked mountains, (one of them remarkably so,) the black sand on the beach, and the scoriæ and other subtances, which had evidently undergone the action of fire, denote it to be of volcanic origin. From the northern extremity the land rises, in a gradual slope, to a ridge of hills which connect the two peaked mountains, and the whole surface of the slope is covered with a forest of trees of the most luxuriant growth. Beyond this region of wood, the crest of the hills, and the sides of the mountains, as far up as about one-third of their height, appeared to be generally in a state of cultivation: on the summits of these hills stand the towns and villages of the natives. The houses are of wicker-work, all nearly of the same size and plan; they are built round an open area, and each is surrounded with a railed fence, or enclosure, within which their cattle are shut up at night. The means of subsistence must be abundant, as the price of a sheep or goat was a common knife, of the value of three-pence; and a piece of iron hoop, a couple of inches in length, would purchase two or three of their finest fowls.

"Captain Kelly describes the inhabitants as a fine race of people: they are, he says, of a middle stature, with limbs well formed, muscular, and active; their countenances very peculiar, the general contour of the face being that of a square with the angles rounded off; the nose, the lips, and the quick and piercing eye, approaching much nearer to the European than the African features: they have woolly hair, which, being twisted and daubed with red clay behind, appears like strings of candles dangling from their heads. The decoration was common to both sexes. Like most savages, they wear round their neck, wrists, ankles, and loins, the vertebræ of snakes, the skulls and jaw-bones of monkeys and other wild animals, and strings of shells of various colours. The hue of the skin was evidently black; but they were all so completely covered with a reddish coloured clay and palm-oil, and their faces so besmeared with fine pulverized yellow ochre, as to give them the appearance of mulattoes. The only mark of distinction observed among them, was that of a hat and feather worn by one person, which seemed to point him out as a chief or superior. No other clothing was in use than a straw hat, with a pair of ram's horns in front, for the men, and a fringe of a certain species of rush, about nine inches long, or of leaves from the nearest tree, tied round the loins of married people of both sexes: the unmarried seemed to neglect all clothing, and went about in a state of perfect nudity. 'The most pure virgin,' says Capt. Kelly, 'appeared as unconscious of indecency, and as free from insult, by the exposure of her person, as she would have been in European countries, under the protecting shield of the vestment of a convent.' The use of intoxicating liquors, and of the tobacco-leaf, appeared to be equally unknown to them. The unfermented juice of the palm-tree, the purest streams of water, the vegetable products of the island, with the domestic animals, sheep, goats, and fowls, afforded them plenty of subsistence; the chief article, however, of their food was the yam, which Capt. Kelly describes as being of a finer flavour than any he had ever tasted elsewhere. The Spaniards affect to consider these islanders a 'ferocious' people: Capt. Kelly, on the contrary, found them a kind, good-humoured, and inoffensive race; and, during his stay among them, had not, he says, the least occasion to conclude that they were either treacherous or vindictive.

"The language of these people was not less different, as we have said, from that of the continental negroes, than their manners and appearance: for, although the Pheasant was provided with interpreters for the whole line of coast, from Sierra Leon to Calabar, not one of them understood a single syllable that they uttered. Neither did it appear that the superstitious veneration of the fetish, so universal along the coast of Africa, was at all known to the natives of Fernando Po.

"Number-

"Numberless little streams were trickling down the sides of the hills into a noble bay on the N.W. side of the island; besides three very considerable rivers, one at each extremity, and the third about the middle of the bay; at all of which, ships may water with the utmost facility. A small island covered with wood, (which may be procured here in any quantity,) and inhabited by about a hundred families, who subsist by fishing, affords shelter to that part of the bay within it. Though the thermometer of Fahrenheit rose to 86° in the afternoon, the land and sea-breezes gave to the temperature a freshness quite unknown on the adjacent coast. And, as a proof of the goodness of the climate, it may be observed that, no appearance of those loathsome diseases, elephantiasi, scrophula, guinea-worm, hydrocele, &c., to which the negroes are so subject, was perceptible among the many hundreds who crowded to the coast on the occasion of this visit.

"To the bay, round which the country rises in a grand and beautiful amphitheatre, Capt. Kelly gave the name of George's Bay. 'Next to the Bay of Naples,' he says, 'I know of no place more capable of being converted to a finished picture by the hand of art and industry than this; let only the immense forest on the slope give place to cultivated plantations of sugar-canes, the brows of the hills be studded with coffee-trees, and a town of sufficient importance to form the capital of the island be built on the rising ground near the east angle of the bay, where a river would flow beneath it, navigable for boats drawing seven and eight feet of water; and Fernando Po would far surpass any of the islands of the British possessions in the West-Indies.'

"We have been induced to give this brief sketch of an island, which, though so near home, has not, to our knowledge, ever been described, chiefly because it is considered by Capt. Kelly as a most eligible spot for employing the captured negroes, instead of sending them a long voyage of six or eight weeks to Sierra Leon; for checking, and probably destroying, the present abominable traffic of slaves in the neighbourhood of the equator; and for establishing a legitimate trade with the interior of Africa, through the channels of the numerous rivers falling into the Gulf of Guinea, and the Bights of Benin and Biafra, as the New Calabar, Bonny, Cross River, Old Calabar, and the Rio del Rey; the Camaroons, St. Benito, Da Angra, and Gaboon, all of which would then not only become sources of wealth to Great Britain, but the connexion to which they would lead, might be the means of materially facilitating the introduction of Christianity and civilization among the much-injured and long-depressed natives of this part of Africa.

"The descendants of those who drove the invaders from Fernando Po have still full possession of the island; and the right of sovereignty is unquestionably theirs; and from them, and them only, can we ever receive a good title to any portion of it; the utmost we have to expect; all, indeed, that we ought to wish for, would be a spot of land for the erection of a fort and a factory. The little island on the N.W. point of the bay (*Goat Island*) appears to be admirably adapted for this purpose; and sufficiently large to answer the end, for which great Britain could alone have any pretence for establishing her flag in this part; namely, that of giving the death-blow to that infamous traffic, which still continues to disgrace those who carry it on, no less than those by whom it is countenanced and protected.

"That this scourge of humanity has nothing abated, but, on the contrary, that its atrocities have greatly increased, since we abolished the trade, and more particularly since the conclusion of the late war, the papers laid on the table of both houses of parliament too clearly demonstrate.

"The conduct of Sir George Collier, of the officers employed under him, and of their respective crews, in their late arduous, unhealthy, disgusting, and uncomfortable, service on the coast of Africa, is above all praise; but, while France and Portugal are suffered to pursue the traffic, there is but too much reason to believe, that both English and American masters, and English and American capitals, will be employed under the flags of those nations, and even under the Spanish flag, from the Havanna, where it is ascertained that ships, of various nations, still continue to fit out for the coast of Africa. The government of America we would willingly believe in earnest, when it declared the slave-trade to be piracy; but, admitting this, it is not very probable that she will be able to destroy slavery on the coast of Africa, while she continues to permit it in two-thirds of her own dominions; or, that the southern and western states will cease to smuggle in fresh cargoes of slaves through the Havanna," &c.

The following directions for, and description of, Fernando Po have been written by Mr. Finlaison.

Ships

Ships bound from Bonny River to the north-west bay of Fernando Po, should endeavour to make the west end of the island; for there is such a strong current setting to the E.N.E., that, with baffling winds, it will take them several days before they get up, if they once get to leeward. The Bay may be easily found, by observing the following directions. When you first see the island, on coming from the N.W., it makes in two peaks, the easternmost one is the highest, and is most peaked to a sharp point; the westernmost is also very high, but is round in the top, sloping gradually to the water's edge. Should you fall so far to leeward as to get the easternmost peak to bear East or E. by S., you must tack and close in with the westernmost side, until you get close to that side, or the west side of the bay; they can then run along shore, within one or two miles of it, until Goat Island is in sight; the soundings will be found regular, from 30 to 25 and 16 fathoms. To anchor, bring the east peak to bear E. ¼ N. Goat Island N. by E., or touching the N.E. point of the bay; and the western extreme point of the bay W. by N. ¼ N., in from 20 to 16 fathoms, three-quarters of a mile off shore. Here two small rivulets, very convenient for watering, and also for wooding, will be found. A ship, if in want of stock, such as fowls, sheep, goats, or game, should fire a great gun or two, when the natives will bring down every thing they have to dispose of: the only thing they seem to place any value on, is any sort of iron, especially iron hoops; for four or five inches of iron hoop, they will give you four or five yams and two fowls; they place no value on any thing, unless it be iron, or such as knives, swords, &c. These people are perfect savages in every respect; their hair grows down to their shoulders, and they are clothed with a kind of red clay and palm-oil. The men are all armed with six or seven spears, made of a very hard kind of wood; they generally wear a kind of grass fringe, which reaches about four inches down the thigh; the women commonly use a few leaves only, as covering; most of the young women had none whatever. I have every reason to believe they must have bullocks, for some of the chiefs wore a part of bullock's hide around their waists. The principal ornaments they wore about the neck, were chicken-bones, glass-beads, and bits of shells; their hats were made like small baskets, and had a few feathers on them, in form of a cockade. Of their women, the men did not seem to be the least jealous; but, it must be admitted that, the females were the most modest set I ever met with on the coast of Africa. During the time we were there, no intercourse whatever took place between them and our people.

The N.W. bay is a good place for hauling the seine, and has plenty of fish of different sorts, such as mullet, bream, and various other kinds; there is also turtle in the bay, and the water is good. The natives would by no means allow us to penetrate into the interior of the island. It is also strange that some of them could not swim: they paint their faces with red and yellow: whenever we buried any of our negroes, they were sure to dig them up, and take away the hammock. The N.W. bay of Fernando Po bears from Backasey Gap S.S.W. distant 64 miles. It has a regular tide, which rises 8 feet on the full and change, and flows at half-past 5 o'clock.

In the Book of Directions, it was said that Fernando Po makes in three hummocks. When we first made the island, we observed three hummocks, but it was afterwards found that one of them was the high land of Camaroons.

ISLE OF ST. THOMAS.—This island abounds in fish, turtle, fowls, turkeys, hogs, sheep, goats, deer, &c.; also in yams, plantains, bananas, cocoa-nuts, oranges, limes, Indian corn, &c. &c.; which may be obtained in exchange for old clothes. For the position of the anchorages, see pages 3 and 6. The West and N.W. sides of the island are high, bold, and rocky.

When you are sailing from any place of the Windward and Gold Coasts, to St. Thomas's Island, it must be in the time of the *ventanias*, or hard breezes, that blow from April to September, making proper allowance for currents. Ships may then proceed to Rolas Island, which lies on the equator, and to the Seven Stones, or Brothers; whence, running to the northward, along the east side of the main island, they come to the road before the castle.

To those which come in along the north end of St. Thomas, the land will appear mountainous and very high: when abreast of the island, which appears sometimes as if divided in two, keep to the E. by S. till you are past Cabrita Island.

Ships from the northward, when bound to St. Anna de Chaves Bay, should make St. Anna's Isle, which lies off the eastern coast; for so soon as this is seen, a small black fort in ruins, upon the shore, will be in sight on the S.W. Steer directly for this fort, until the isle of St. Anna is brought in a line with the low green point to the southward of

of the black fort. With this mark on, bring the new fort, or castle, on the S.E. point of the bay, W.S.W. Here you will have 6 and 7 fathoms, at about one mile and a half from that fort, sandy bottom, with Cabrita Island bearing N. by W. ½ W.

Ships must not approach Cabrita Island nearer than to bring the new fort to bear S.W.; for beyond that bearing is shallow water, and not more than 10 or 12 feet, full of coral branches. You run from St. Anna's Island to the anchorage, within a mile of the shore, in 6 and 7 fathoms; the bottom is rocky throughout.

The following view of St. Thomas's Island, 8 or 9 miles distant, was taken by Captain George Young, and is presumed to be correct. The summit of the peak is generally covered with a cloud, that appears like smoke.

E. by S. S.E. ½ S.

The lead is no guide when turning in from the northward; because from no ground a ship may have 12 fathoms, and be aground before another cast can be hove.

The *Roadstead of St. Anna*, or *Anna de Chaves*, is defended by a stone castle or fort, standing on the south side, at the entrance of the bay. Within this bay you cannot steer up at pleasure, but must sail close-hauled with the S.W. wind. The shore is generally steep, and the currents uncertain.

In approaching this place, it is certainly safest to come round by the south end of the island, as above stated. The wind, also, is most favourable, and the shore to the southward of the fort may be approached with greater safety than that to the northward.

On a sketch of the Bay of Anna de Chaves, made by the late Sir Home Popham, when a lieutenant, this gentleman has said, "A shoal, with only 2¼ fathoms on it, fine white sand, lies about 2 miles or more to the eastward of the town, on which the Hind struck. This appears to be the shoal on which the Chesterfield struck, when accompanied by the Blandford and Tartar, in 1781. This ship, passing round the N.E. side of the island, gained no bottom at 50 and 60 fathoms, until the rocks were seen along side. Soon after, 16 fathoms were found, and the ship grounded in stays. When aground, the fort bore about W. by S., and Cabrita Island N.W. The ship was hove off with the stream-anchor and the assistance of a schooner: she then made for the road, keeping the fort from West to W. by S.; had, from no ground, 60 to 16 fathoms, shells, sand, and coral; then anchored with Cabrita Island N. by W. ½ W., and the fort W. S.W., off shore about 2 miles.

"The Tartar anchored in 5¼ fathoms, with the fort S.W. by W. one mile, and the Blandford much farther out."

His Majesty's ship Grampus, in 1784, found anchorage in 6 fathoms, with Cabrita Island N.N.E., and the fort bearing West.

Man-of-War Bay, on the N.E. side of the island, is a fine spot for small vessels, but large ships are obliged to lie out in the open road, in from 10 to 18 fathoms, where there is good ground and smooth water: though it is dangerous lying there in the season of the tornadoes, as they prevail from N.E. directly upon the shore.

It appears, from the journal of Sir George Young, that, being at Badagry, and observing, in the evening, a tornado coming on, they ran up as far as Whydah, and thence upon a stretch to St. Thomas's. The island was made in eight days, but four or five days more elapsed in getting round to the Bay. The north coast appears, at a distance, like two small islands, being low in the middle.

A convent, called that of St. Francisco, appeared on a high point of land a little to the S.W., and a house on the beach just to the westward of the convent: between is the watering-place. The soundings ran very irregular, from 30, 25, 22, 12, and 6, fathoms, within a mile of the shore; and, within that, is a flat of 3 fathoms, to about 2 cables' length from shore.

"We anchored in ¼-less 17 fathoms water, and moored along shore with both bowers; the northernmost point of St. Thomas's West; the easternmost of Cabrita Island S.E. by E. 2 or 3 miles; the convent of St. Francis, or a house upon the top of a small

a small hill, S. ¼ E.; the highest peak of the island S.W. ¼ W.; the watering-place S. ¼ W. half a mile; we were lying abreast of a white house, close to the water-side. We took care not to come nearer Cabrita Isle than to bring the watering-place S. ¼ W., or S. by W., on account of a flat of 17 or 18 feet water, between that island and the main. The watering is very easy here, from a fine small rapid river, that vents itself into the sea, and which is a great deal better than the river at the town, where the women are for ever washing with nasty stinking palm-oil soap. Plenty of wood is also to be obtained here.

Man-of-War Bay is a preferable anchorage to that of St. Anna de Chaves, particularly in the tornado season; as the winds, which blow directly into the latter bay, lead clear out to sea from the former.

The water, also, is not only much better in the former, but is more easily obtained. Beef and other refreshments, except what may be brought on board by the canoes, must, however, be sent for to St. Anna de Chaves; the market-place here being well and reasonably supplied with tropical fruits, vegetables, eggs, fish, poultry, pigs, goats, and cattle.

The Seven Stones, or *Seven Brothers*, which lie off the S.E. part of St. Thomas's, appear, from the northward, like ships under full sail; and are supposed to have been frequently mistaken for the main land of the island. From off these rocks the land appears very high, and the peak may be descried. To the eastward is a river, with many plantations of sugar-canes, &c.

PRINCE'S ISLAND.—This island has been selected as the rendezvous of the African convoys, the harbour being the best in the Southern Islands: on both sides of this harbour are many rivulets of water, which may be conveyed by hoses into the casks in the boats; but it is inferior to St. Thomas's in the abundance of provisions.

"It is advisable, (says the Portuguese Pilot,) on account of the strong current which prevails along the north coast, to make the island on the south side: this is easily known by the three small rocks called the *Tinhosas* or the *Three Brothers*, lying about 2 leagues from the S.W. point; and by another high and round rock, 3 leagues to the eastward of these, called *Carozo*, or the *Dutchman's Cap*.

The harbour, named Port Antonio, is on the eastern side, as represented on the Charts, and has good clear ground, in regular depths of 10 to 3 fathoms: It is surrounded with high hills, and you may lie there almost land-locked; but it is exposed to heavy trovadoes, which require that the vessels should be well secured. On the N.W. side is another bay, Port Agulhas, with 16 fathoms, clear ground, where you can get good water.

"When you approach the island by the north side, you may descry a high peak on the south-west point, that appears like a sentry-box; and, on the east part, another peak, very high and round, which they call the *Parrot's Bill*."

The following directions, &c. are those of Mr. Finlaison: "Ships bound to Prince's Island, from the westward, should endeavour to get into the latitude of 1° 37′ N., and not to the northward of that parallel, as the current commonly sets strongly to the N.E. into the bights of Benin and Biafra, at the rate of a mile and a half an hour. In clear weather, the island may be seen 20 leagues off. The north end of the island is very low, but the southern part very high, land. In running round the north end, and being bound for Port Antonio, you will first see an islet, called Bird Island, which lies at the distance of a league to the northward, from the north point. About 9½ miles to the south-eastward of Bird Island, are the Diamond Rocks, off the N.E. end of the island: you may approach either, to the distance of a quarter of a mile. Having passed the Diamond Rocks, the harbour and shipping in Port Antonio will be seen.

"There is no danger in going into the port or harbour; you may stand to the south shore, until you come to 6 fathoms, and to the north shore to 10 fathoms, it being steep-to. The rocks are on the north side. At the distance of a mile and a half from the southernmost fort is a coral reef, of only five fathoms: at a cable's length without that, are 9 and 8 fathoms, soft mud, and good holding ground, to one or two miles farther in. Ships should moor with an open hawse to the sea, as the anchorage is open to the *trovadoes*.

"All kinds of tropical fruits may be obtained here in abundance, with stock of all kinds. The island is also abundantly supplied with streams of excellent water."

Port Agulhas, or the North-West Bay of Prince's Island, is represented by Mr. Finlaison as a convenient place of shelter. Off the south point of the bay are seven small

small rocks under water; the outer one is half a mile without the point, and may be passed within a cable's length. The best anchorage here is in 16 fathoms, coarse sand and mud, with the south point of the bay W.N.W. ½ W.: the peak of the island, S.E. ½ E.; and north point of the bay N.E. by N. 6 miles. In a less depth than 16 or 15 fathoms, the bottom is full of rocks. There are two good streams of water in the head of the bay. This place is secure from the *trovadoes*; it is open to the N.W. winds, but these seldom occur. There are regular soundings without the bay; at five miles, from 16 to 40 fathoms, fine sand, the peak bearing S.E.

ANNO BONA, or Anno Bon.—This island, which is situated as shown in the Table, page 3, was first discovered by Portuguese navigators, and was named Anno Bona, or *Good Year* Island, from being first descried on a new year's day. Its central land is so high, that it may be seen, in clear weather, at the distance of 10 or 12 leagues; and its shores may be approached with safety, in any direction, so near as a mile. Its base, where it emerges from the sea, is about 30 miles in circumference: from which the land rises in varied and picturesque forms to a considerable elevation, in the central parts of the island; nearly the whole of which is covered with orange and lime trees, and on the summit of the sugar-loaf mountain there is a pond of fresh water. The anchoring place is on the north-east side of the island, where there is a town near to the shore, defended by a small intrenchment of stones; abreast of which, and about half or three quarters of a mile from the beach, there is from ten to fifteen fathoms of water, good sandy holding ground, very smooth riding, and a convenient landing-place. Off the south-east point of the island, and at a good distance from the shore, is a small island or rock, in the form of a sugar-loaf; between which and the land there is a good passage for ships; and, near the shore, approaching the anchoring-place, are seen seven rocks above water, which should be carefully avoided, as also a sand-bank to the northward of the town. On the south-east side of the island there is good fresh water, which runs down the mountain through a valley of orange-trees; but the watering is rendered somewhat difficult by stones and breakers.

The wind, about the island, blows with a moderate force, and little variation, from the south and south-west quarter, throughout the year; so that, as ships lie there, under shelter of the land, they ride at anchor exceedingly easy and safe, and the navigator has little or no danger to apprehend from wind and weather, excepting about the months of March and September, when tornadoes, or strong gusts of wind from the eastward, prevail at times over the general sea-breeze, and blow direct into the anchorage; but, fortunately, the previous gloominess of the horizon to the eastward, and the heavy thunder and lightning by which they are preceded, always give timely notice to those who have not the ground-tackling requisite for riding them out, to get under sail, and withstand their fury in the offing.

In point of salubrity to European visitants, this island could scarcely fail of proving superior to any of our settlements on the western coast of Africa, and it is much better suited to the constitution of Europeans, than the climate of any other African Island, situated within the tropics, and at a shorter distance from the continent. It is situated far out of the reach of those pestilential vapours and excessive heavy dews and rains which are so prevalent, and so fatal to Europeans, on the coast of the continent; and it does not contain any marshy land, nor stagnant waters, within its shores.

The island produces plenty of wood, suitable for firing, and is well supplied with pure fresh water, which flows into the sea, at a short distance from the anchorage, to the south-east: and ships may soon procure a supply, either by means of their own boats and people, or by employing the canoes of the natives. It also produces plenty of refreshments, and very cheap: there are cows, sheep, goats, fowls, and many hogs; together with sugar-canes, plantains, bananas, pine-apples, cocoa-nuts, pomegranates, oranges, limes, tamarinds, yams, and cassada. But oranges are the fruit with which the island most abounds; the quantity of them is incredible, and they may be obtained all the year round; they are full of juice, and of an exquisite flavour. A little cotton, likewise, grows on the island, which is sent to Portugal. By properly encouraging the natives, they might, doubtless, be very soon brought to supply any quantity of those and other refreshments that ships might need; and should any thing else be required, such as bullocks, rice, Indian corn, calavances, and yams, or even ship-timber and lumber, the island could be readily and abundantly stocked from the neighbouring continent.

There

There are about one thousand inhabitants on the island, who are a mixture of Portuguese and African negroes; the latter people are said to be the descendants of a cargo of African negro-slaves, that were shipwrecked there on their passage to Brasil. They are, on the whole, a stout, hardy, active, and half-civilized, people, capable of becoming, under a liberal establishment, industrious, useful, and orderly subjects. Even in their present state of degradation and wretchedness, they may be found extremely useful to ships touching here; for, besides fetching them wood and water, should any ship be in distress, through sickness and mortality of her crew, assistance from these people may be obtained on very reasonable terms; and many of them are not only tolerably good seamen, but also capable of great improvement in that capacity: this has, indeed, been often experienced by our Guinea-men.*

To those commanders who have visited Anno Bona, or been in the practice of trading to the coast of Africa, no instructions are here required for their government at the island; but it may be necessary to acquaint others, who are strangers there, that, under the present circumstances of the inhabitants, they do not require money for any of the refreshments or necessaries they can supply, nor are there any established customs payable to them for anchorage or water. Seamen's clothing, coarse woollen and cotton cloths, pocket-handkerchiefs, hats and worsted caps, hardware and earthenware, gunpowder, spirits, leaf-tobacco and pipes, also salt, and even any sorts of old clothes, are much more acceptable to them than either gold or silver; and an assortment of these articles, to the amount of five or ten pounds, will be sufficient, with good humour, ingenuity, and dexterous management, to purchase as much live-stock, poultry, fruit, and vegetables, as any of our ships might need. Though there is no duty claimed for anchorage or water, it is customary to make a present to the governor of a few of the above-mentioned articles, as also to the priest, and him who acts as linguist or trademan.†

DIRECTIONS *for* SAILING FROM *the* BIGHT *of* BIAFRA *to* SIERRA LEON. *By* Mr. FINLAISON.

SHIPS bound from the Bight of Biafra to Sierra Leon, if from Calabar River, when the wind does not permit them to proceed by the N.W. of Fernando Po, may pass between that island and Camaroons River, when they will find a strong current setting to the southward, out of the River del Rey. After they have advanced to the southward of Fernando Po, they must endeavour to make all the southing and westing they can; passing either to the eastward or northward of Prince's Island, as winds will permit. On the east side of this island, the current sets strongly to the southward, at the rate of a knot and a half: westward of Prince's Island, it generally sets strongly to the N.E., at the same rate.

Having arrived to the southward of Prince's Island, if the ship will lie no higher than W.N.W., tack immediately, and try to cross the Line; for, by so doing, you will keep out of the strong N.E. current that sets towards the bights of Benin and Biafra. After you have crossed the Line, you will find that you are nearly out of the easterly current.

* In a respectable work already quoted, it has lately been stated that deadly fevers are at times experienced at Anno Bon; that the anchorage is extremely dangerous; its productions of a common and degenerate kind, and not abundant, and its inhabitants a most wretched people. Preceding descriptions of the island may have been overcharged in one way; but we are assured, by a respectable commander, acquainted with the island, that this description is not less so in another. The bank is certainly narrow, and caution in anchoring is required; but, to an experienced seaman, it cannot be considered as dangerous. It is clear, at least, that an ample supply of limes, oranges, bananas, plantains, and other refreshments, may be readily and cheaply obtained here.

† For additional information as to Anno Bon, see a 'Description of the Island, shewing its eligibility and importance as an occasional place of resort, with an Appendix on the Causes and Prevention of Sickness and Mortality among Seamen employed in the African Trade,' by Elliot Arthy, Surgeon; London, 1820. This little work, price only 2*s*., is well entitled to the notice of our readers.

Ships, which may visit St. Thomas's or Prince's Islands, are required to pay eighty-four ackies, or the sum of twenty-one pounds sterling, for custom and harbour dues; and a farther duty of ten per cent. on all goods that are landed. The air about them, moreover, is very injurious to strangers.

In

In the parallel of one degree south, you will find the current set to the westward, at the rate of one mile an hour. In the month of May or June, when the sun has a high declination, the trade-wind is far to the southward, and you will not gain the regular breeze nearer than in three degrees south. This breeze commences from S. by W. As you make westing, the wind will be found to haul more to the southward and eastward, and the current increases to the rate of a knot and a half in an hour, until you arrive as far to the westward as 15 degrees west. On proceeding hence to Sierra Leon, come no farther to the eastward than 15 degrees west, until you are as far to the northward as 8° 30′ N.; then you may steer boldly in for the Cape. You will strike soundings in that parallel, in 14° 40′ W.; and, as you approach the Cape, the soundings will be found very irregular, from 20 fathoms to 12 at a cast. You will then be 7 leagues from the Cape, and in the fair track of the river.

Having given these directions to our Prize-master, they generally made the passage from Fernando Po and Bonny in five weeks; merchant-vessels have frequently been three months, by keeping in-shore.

DIRECTIONS *for the* COAST *from* CAPE LOPEZ *along the Coast of* LOANGO, *to* CONGO RIVER.

ABOUT 9 leagues S. ½ W. [*S. by E. ½ E.*] from Cape Lopez, is the entrance of *St. Mexias River.* The coast all along is clean, and you may sail in without fear, in 7, 6, and 5, fathoms of water. The anchoring place, off the entrance of the river, is in 5, 4, and 3, fathoms; but you are to avoid a reef, which reaches from the south point almost to the middle of the channel.

From this point to Cape St. Catherine, the bearing is South [*S.S.E.*] distance 11 leagues. The coast between is low and clean, covered with trees, all along which the sailing is very safe. At about 6 leagues north of Cape St. Catherine, is the False Cape of that name; to the northward and southward of which you can come to an anchor in 8 fathoms, sandy ground. The true Cape, on approaching from the north, shews a tuft of trees on the point, and seems to be separated from the main land; but, in advancing from the southward, it appears craggy: the point has a reef, which stretches to the N.W. above 3 miles into the sea, and lies on the south side of Camma Bight and River, in the opening of which are 6 fathoms.

From Cape St. Catherine, the coast trends South [*S.S.E.*] above 10 leagues, to Setté River; the land is low, covered with trees; with a sandy beach, and no mark to distinguish it: it may be seen, however, in 35 fathoms from the mast-head, when the weather is clear. This river is the northern boundary of the Loango dominions; its mouth, being low land, covered on each side with high trees, is not readily seen: there are 3 fathoms water in the entrance, which insensibly increases to 40 fathoms, at about 10 leagues to the westward of it: the bank of soundings is nearly of the same breadth, with the same regular depths, all along from Cape Lopez to the Zahir or Congo River.

The coast continues in the same direction about 11 leagues, from Setté River to Point Piedras, the land being low all along the shore, but high and flat in the country. At about 4 leagues to the southward of the river is the beginning of the *Hills of the Holy Spirit*, which appear to be 6 or 7 leagues inland. "They are (says Mr. Woodville) beautifully ornamented with trees, and a vista in the middle." Pimentel describes them as two high mountains, flat at the top, which, lowering regularly on each side, unite equally with the ground. On the south side of these hills some white grassy spots are seen, which, when you come near the coast, in 11 or 10 fathoms, appear quite barren. You ought not to come to an anchor, nor go nearer the shore than 9 or 8 fathoms, the bottom being full of sharp stones; so long as you find good ground, you may approach the land; but so soon as it becomes rocky, stand to seaward. There is great fishing on all this coast, chiefly for pargos or rocket-fish.

From Point Piedras, which is surrounded with a stony reef, to Cape Yumba, the distance, on a south course, is 8 leagues.

Cape Yumba is called, by the Portuguese, Cape Primeiro, or First Cape; it lies in about 3° 30′ of latitude south.

When

When you come from the northward, it shews itself in three or four high saddle-hills along shore, and steep down to the sea at the pitch of the Cape, on which are some tufts of trees. This they call the High Land of Yumba. From this pitch a stony reef stretches about one mile, in a south-west direction.

About 3 leagues to the southward of Cape Yumba, lies Point Matooty, which the Portuguese name Cape Segundo, or Second Cape: it has a ledge of rocks above and under water, extending to the northward a mile and a quarter, and near which you can come to an anchor in 12 fathoms, near the west side; or in 7 and 8, oazy ground, on the east side.

YUMBA.—Of the Bay of Yumba, or Mayombe,* as Pimentel calls it, the opening is nearly 3 leagues wide, between the two capes; and the inward recess of its coast, to the eastward, is about 1½ league. It is a fair spacious bay, with a fine sandy beach, and inhabited by negroes, of a very civil disposition, who have several villages along the sea-shore. There is very good anchoring all round, in 4, 5, 6, 6½, and 7, fathoms, sandy bottom: the place of trade lies on the south side, on a slip of land that separates it from another small bay, called the Inner Bay, and which is navigable for small craft only.

The variation of the needle in this bay, as well as along all the coast hereabout, was, in 1786, according to Messrs. Woodville and Mackey Reed, 19° west. It is now 20° or 21°.

Mr. Dalzel, also, says that the Bay of Yumba is an open bay, sheltered by a reef, that stretches out from the northernmost point above three quarters of a mile. From thence to Point Matooti, or Cape Segundo, you may anchor at pleasure, even at two miles from the shore, in 18 or 20 fathoms. Abreast of the south point the water shallows to 10 fathoms, and here, he adds, I do not think it prudent to anchor.

From Point Matooti to Point Banda, the course is S.E. by S. 10 leagues. At about 1½ league to the N.W. of Point Banda, Captain Dalzel came to an anchor in 20 fathoms, rocky and corally ground; the anchorage was unsafe, but he had excellent fishing.

Thence to Kilongo Reef, distant 7 leagues, the coast trends to the S.E. by S. This reef, half a mile in extent, is the Baxio do Indio of Pimentel. There is a cove to the southward of it. The land between is of a moderate height, with white spots; to the northward of the Cove is a great lagoon, and a high mountain with a nib on its summit: the bottom, hereabouts, is red sand, mixed with small shells.

From the cove of Kilongo, where there is tolerable anchorage in 5 fathoms, to the River Quiloo, the course is about S.E. by S. 7 leagues. "The land to the southward of the Cove (says Pimentel) is tolerably even, with some hillocks and lofty trees farther in, which terminate to a pretty high mountain, called, by the negroes, Salomba. The coast, for the space of four leagues, appears white at a distance, with sandy downs, and has some palm-trees. The bottom, along shore, is sand and stone, so that you ought not to approach the land nearer than 9 fathoms; this foul ground continues as far as the River Quiloo. On the north side of the entrance of the river are two small eminences, called, by some navigators, the Paps. You cannot land here but in boats, as a bank of stones and sand exists, on which are only 2 fathoms of water."

The Red Hills, which are very steep on the shore, with bushes and palm-trees, begin to the southward of the river Quiloo; they encompass Loango Bay, of which the opening is 4 leagues broad, between its south and north points. A reef of stones, called the Indian Bar, on which the sea breaks, stretches almost one league from the south point, and must be carefully avoided. You anchor in Loango Bay in 4 or 5 fathoms, oazy ground, 2 miles from the shore, observing that the current is very rapid, especially with spring-tides.

LOANGO.—The Town of Booali, capital of the Loango empire, lies about two leagues to the eastward of the bay; it is very extensive, and generally known by the name of Loango.

To the south of Indian Bar lies a deep bay, very little known, of which the entrance is two leagues wide, between the south point of Loango Bay and a low and level head-land, covered with dark trees, and called Black Point; a reef stretches from this point, about 3 miles to the N.W., into the sea.

* *Yumba* is the name of that part of the empire of Loango in which the bay is situated: *Ma-Yumba* signifies King of Yumba.

MA-

MALEMBA.—From Black Point, the Bay of Malemba, or Molembo, is distant 16 leagues; the coast within that space lying S.E. by S. [*S.E. by E.*] At 7 leagues from the point you come to the River Louango-louiza; the coast between, being lower than that you have passed, is covered with trees, and has a white sandy beach. Three leagues farther, you come to the entrance of the River Kacongo, which is very fine, and 2 leagues broad; the land betwixt the two rivers rises into hills of a moderate height. Malemba is next to Kacongo River; it is an open bay, surrounded with red hills, which are even, and moderately high, but very steep down to the strand. You anchor at Malemba in 6 and 5 fathoms, oaze, one league from the east shore, and from the south point of the bay, near which there are only 3 fathoms of water.

CABENDA.—About 2½ leagues S.E. [*E.S.E.*] from the south point of Malemba, stands a little round mount, which they call Cascaes. To the southward of this mount or hummock, a huge land is seen, with many palm-trees and steep cliffs, along the sea-shore, that appear at a distance like the sails of a ship; then you come to the River Belé, and the Bay of Cabenda, which is the best of all this coast: on the south side of it lies Point Palmar, named, by our seamen, Cabenda Hook; it is a sharp point, projecting from the round headland of the bay. When you sail into Cabenda Bay, you are to keep within gun-shot of this point, on account of its reef, running northerly around it; and, when it bears West and W. by S., you anchor in 5 or 4 fathoms, over against the Big Tree, on the south shore; two or three miles to the westward of which is a rivulet of fresh water. You may ride, also, keeping the point S.W. from you, in 5 or 6 fathoms, oazy bottom, taking care to keep clear of the north point, which is foul, with a strandy ground a little farther.

Cabenda Road, from the observations made by the French, &c., lies in about 5° 36′ latitude south.

From Cabenda Hook, S. ¼ E. nearly 3 leagues, is the Red Point: between the two are seen the Dous Montes, or the Two Hills, which, being descried at a distance, from the northward, and lying to the south of Cabenda Bay, have caused that bay to be sometimes called by the name of Two Hills Bay.

From the Red Point, around which is a reef stretching 1½ mile into the sea, the coast trends S.E. by S. [*S.E. by E.*] about 5 leagues, to Point Palmeirinho, at the entrance of the Zahir or River of Congo, which is large and very magnificent; the land, all high and steep, hangs over towards the sea, and appears like the ruins of old buildings, with hills above, that make it a double champain land, and it has abundance of palm-trees.

DESCRIPTION *of the* ROADS *of* LOANGO, MALEMBA, *and* CABENDA. *By the French Missionaries of* 1773.

"THE Road of Loango is good, and ships lie there well secured. To the N.E. it is bounded by a low point, at whose extremity are some rocky ledges, that stretch above a league into the sea, and shelter you from the S.W. winds: when you are coming in, you leave their outermost end to the W.N.W. of the ships seen in the road, which ships must be brought to bear S.E. to go to them.

"If no ships are perceived at the anchorage, you are to steer S.E. towards a remarkable tuft of trees, called Looboo Wood; or, if you are afraid of some mistake, set up the flag, and fire a gun; the negroes will come immediately in their periaguas, and shew you the anchoring-place.

"You find from six to seven fathoms water, two or three leagues off shore; then you come suddenly to five, and insensibly to four, fathoms: this depth leads you to the anchorage, in 17, 18, 19, and 20, feet water (according to the size of your ship), oazy ground, mixed with fine sand. You moor across N.N.E. and S.S.W. one mile from the land.

"When you are moored in 20 feet water, the south point of the bay is bearing S.W.; Looboo Wood S.S.E. 5° E.; and the middle of Ma-kimbe Wood E.S.E. 5° S.

"The best place for small vessels is in 17 and 18 feet of water; then the south point is brought to bear S.W. ½ W. and W.S.W.; and you are by that means secured against the violence of the occasional currents; but, in this berth, being nearest the land, you are exposed to its noxious exhalations, chiefly during the season of the greatest heat and of the rains; that is, from the months of October or November to those of April or May.

"The

"The boats do not come to the shore, but remain at anchor in the offing, without a bar, upon which there is a great swell; and the landing is made with periaguas.

"To go out of the bay, the barks must steer N.W. when there are breakers, and W.N.W. when there are none; but vessels ought to stand to the N.N.W. at least.

"The Bay of Malemba lies to the N.N.E. of Cabenda, distant eight leagues. When no ships are seen there, the marks for the road are, a small hillock, which borders the shore, and a little rocky point, extending into the sea. You anchor at a good league from the land, without any shelter.

"When you are approaching the coast, you find a ledge of rocks under water, at the end of the little point just mentioned; the boats, in passing over it, to fetch the landing-place, go more or less from the point, according to the swell of the sea; when once past the pitch of this point, you turn in on the right, along its side: the swell decreases as you approach the shore, and you may come near enough to land without periaguas.

"To enter into Cabenda, you are to steer towards a big tree, easily seen at the bottom of the bay, and bearing S.E. by S.; by that means you avoid, and leave on the starboard side, the sand-banks at the entrance of *River Belé*, which are very dangerous, and on which the sea sometimes breaks.

"You must take care likewise to give a proper berth to Cabenda Point, *(Point Palmar,)* which is bordered with shelves that stretch a mile to seaward.

"The riding there is in 3½ fathoms water, soft oaze. You moor across E.N.E. and W.S.W., the best bower to the larboard, on account of the gusts of wind from the South and S.E. Those from the N.W. are sometimes very violent; but, when you moor E.N.E., both cables are labouring together.

"To be in the proper berth, Cabenda Point must bear W.S.W. half a league; the factory's landing-place S.S.W. one mile; and the big tree at the bottom of the bay S.E. two miles."

THE RIVER ZAHIR, *or* ZAIRE, *or* CONGO RIVER.

CONGO RIVER, called *Zahir*, or *Zaire*, by the natives, is one of the largest in Africa; it is above two leagues broad at its mouth, and runs so impetuously into the sea, that no soundings can be obtained. The waters of the river keep their sweetness three leagues to the W.N.W. of the mouth, and their effect is perceived at above 12 leagues distance from that mouth; the water being there of a black tinge, with floating islets of bamboo, &c., which the violence of the stream tears off its shores, and carries into the ocean, sometimes in such a quantity, that, without a brisk gale of wind, you can hardly sail through them.

To the westernmost point on the south side of Congo River, which is called Mouta Seca, or Dry Thicket Point, by the Portuguese, the generality of navigators now give the name of Cape Padron, a curruption of the word Padraõ. Mouta Seca Point, Mr. Maxwell, in his Chart of this river, calls Turtle Corner; and brings the cape one league to the S.W. of it, without the river; and this confusion or misplacing of names, though, perhaps, of little importance, ought to be mentioned.

REMARKS *and* DIRECTIONS, *by the French Missionaries, in* 1773.

"CONGO RIVER forms a most impetuous current at its mouth; in order to cross over that current, when coming from the south towards Cabenda, you go along shore, at 1½ or 2 leagues distance, in 10 fathoms water: the coast is low, and covered with woods.

"If you should happen to be on the south side of this current, and night coming on, you must come to an anchor to the S.W. within Cape Padron, 1½ or 2 leagues off the coast, and wait till the breeze shall be formed next day: it would be hazardous to attempt the passage during the night. The breeze commonly begins at nine or ten o'clock, and blows from S.S.W. to W.S.W. You direct the head of the ship from E.N.E. to N.E., to encounter the current in the most advantageous manner, and keep it so till you begin to be in the bed or channel of the river, when you put the head to N.N.E., having a continual recourse to the lead. The water runs with such force in the middle of the channel, that it carries away the lead; and you would attempt in vain to moor, if you were overtaken there in a calm.

"When

"When you are past this impetuous current, you find from 16 to 13 fathoms water, and then must come nearer the land, approaching it within 1½ league; you are to keep in six and eight fathoms, without ever coming under five, from fear of some sand-banks, on which there are not more than 15 feet of water; besides, by keeping in the above depths, you find every where an even ground, where you can safely anchor in case of a calm. So soon as you can descry Cabenda Hill you may steer N.E., provided you should keep always in the same ground.

"Within four or five leagues of Cabenda, you perceive the ships which lie in the road, over a very low slip of land, which is called Palm-trees Point: should you not be inclined to come immediately into the road, the ships are to be brought E.S.E., and Palm-trees Point S.S.W., and then you come to an anchor in five or six fathoms, oazy sand."

Remarks *on the* Zahir, *by* Mr. George Maxwell.

"Vessels sailing out of Congo River should take Shark Point close on board, and, anchoring under it, supply themselves with fish, which they may do abundantly in a couple of hauls with the seine. But this coming to Shark Point should never be attempted till the sea-breeze sets in, lest the irregular eddy current running off it should render the vessel ungovernable, and sweep her over on the Mona-Mazeea (or N.W. shore), the bank of which should be approached no nearer than five fathoms; and it is dangerous to anchor there when a heavy swell sets in about the full and change, the current running N.N.W. on the edge of that bank, at the rate of seven miles per hour.

"Vessels intended for Congo should be provided with a mooring-chain, the water of that river having the quality of rotting cables in a short space of time.

"About six weeks after the commencement of the rainy season, (that is, from the middle of December to the latter end of April,) you find in the river nine feet more water than the common depth; and it has a very rapid current, which brings along with it numbers of floating islands, some of them 100 yards in length, composed of fibrous roots, and covered with grass, which renders it very dangerous to vessels at anchor, when tornadoes happen, which are also very frequent."

General Remarks *and* Instructions *on the* Navigation *between* Biafra *and* Congo.

The navigation between the Bight of Biafra and Congo seems to be very imperfectly understood, owing to a general ignorance of the setting of the currents and local circumstances. The currents of the bight are clearly variable. On the east of the islands the stream has been described as setting to the south; while, at Prince's Island, a north-westerly current on the east, and a more northerly current on the west, are occasionally found. A northerly current is also described as prevailing on the coast, all the way from Cape Negro, in 16° South. The following extracts from the narrative of Captain Tuckey's Voyage will shew the necessity of keeping clear of the bight, and attempting a more direct passage from the west, when bound to the coast of Congo, &c.

On the expedition to the River Zahir, the ship Congo had Prince's Island in sight, 16th May, 1816, at the distance 12 or 14 leagues. From the spot whence the island bore *S.E. by S. true*, at that distance, the ship, with light airs from South to S.W., attempted a southerly course, but a strong current setting to the northward impeded it. On the 19th, at day-light, St. Thomas's was seen, bearing *S. by W. true*, 12 or 14 leagues. The island was in sight for two days, the ship making scarcely any way to the southward; she then stood to the westward, but wind and current still continued unfavourable, and she did not succeed in getting to the southward of St. Thomas's until the 27th, having been obliged to stand to the westward, as far as the meridian of four degrees east, and at length passed only about four leagues to the southward of the island. Observations here gave for the position of the Isle Rolas the equator and longitude about 6° 45′.

The ship continued working to the southward, taking every advantage of the wind, and frequently trying for soundings, without obtaining them, until the 3d of June, when, at noon, 17½ fathoms were found, with greenish oze. Here the coast was seen: the latitude 2° 10′ South, computed longitude 9° 29′ East.* The land was about four leagues to the

* This must be the low coast to the southward of Cape St. Catharine, which we place in longitude 9° 30′.

eastward. The weather was hazy, so that no remarks on the coast could be made. It was, however, inferred that the bank of soundings here does not extend farther off than 10 leagues. At 10 or 12 miles off shore were 18 fathoms, with greenish oaze; thence *S.W. ½ W. true*, 5 miles, 30 fathoms, coarse sand; thence *S.W. true*, 3 miles, 47 fathoms, sand and broken shells; thence *S.W. by W. true*, 4 miles, 67 fathoms, same bottom; and, thence *S.W. by W. ½ W. true*, 4 miles, no bottom with 100 fathoms.

"From the 5th of June the Congo continued to work out of soundings, but making very little way to the southward, until noon of the 17th, when she gained the latitude of 3° 12′. Running hence *E. ½ S. true*, 12 miles, soundings were gained in 66 fathoms, coarse brown sand, with red specks.

"On the 25th of June, at noon, the ship had gained no more to the southward than to 3° 49′ South. On the 26th, to 4° 8′. On the 28th, she was in 4° 24′. Some observations on the coast were now made; but, we fear, they are too inaccurate for admission. On the first of July, the ship was off the south point of the River Louango Louisa, then bearing *E. by N. ¼ N. true*, 7 or 8 miles. The current here ran N. by W. about three-quarters of a mile hourly. On the seventh, the ship had arrived in the Zahir.

"Captain Dalzel's Directions state, that vessels, sailing from Cape Lopez to Cabenda or to Congo River, are continually tacking and veering; being obliged every evening to come to an anchor. The practice is, in the morning, so soon as day-light, to put off, and keep to seaward till eleven or twelve o'clock, when the wind is South or S.E., and also when it is still. If then it does not change, a vessel loses ground, although in 80 fathoms of water. In that case, get up again with anchors: but, when you come below anchoring-ground, you cannot gain the river; and it would even be very difficult to pass by the entrance of Kacongo River, as the currents set there, most part of the year, to the N.E. and N.N.E.; and though, from March to September, when the S.S.E. winds are blowing, the currents may run towards the S.W. by S., yet it is adviseable to keep off as before, and even farther; the sea, during that time, falls with greater violence against the shore than at other seasons of the year.

"Along this coast, between Cape Lopez and River Congo, (says Pimentel,) it is not fit to sail but in the morning: so soon as the wind comes from the South towards the land, you go to seaward for twelve hours, and if it does not change, come back again to the shore, where almost every where you will have 8 or 10 fathoms water. As the current all along runs much to leeward, N.W., and W.N.W., should you perceive it setting to the S.W., the best way is to take a trip to sea, two hours before day-light, and then to return and anchor near the land: any other method would make it very difficult for passing the River Congo. The current being to leeward, when you turn about to sea, with the wind at West or W. by S., and your ship half-way, it is adviseable you should come back to the land, to anchor in 10 or 12 fathoms, oazy ground, which you will find in all this part; and if the wind should happen to blow from the S.W., you are to turn toward the sea."

REMARKS *on* PRESERVING *the* HEALTH *of* SEAMEN *engaged in the* TRADE *to* CONGO, *&c. By* MR. MAXWELL.

"THE health of seamen being of the utmost importance, the following observations, the result of ten voyages to Congo, may be of use:—

"The most prevailing disorder in the river is a very malignant putrid* fever, which, if treated in the usual manner with evacuants, either proves fatal in a short time, or leaves the patient labouring under a tedious and distressing intermittent.

"Surgeons have observed the best effects from Peruvian bark and port-wine, given on its first appearance, in the quantity of two or three ounces in 24 hours; and though at first it may increase the fever a little, it seldom fails to remove every symptom of it in two days; the patient having recourse, at times, to castor-oil, and keeping himself warm with flannels: so very essential is that article of dress to seamen in this river, that very few have experienced sickness that wore flannel-shirts.

"After washing the decks in the morning, when the sailors are putting on dry shoes and jackets, serve out a dram of bitters to each man; but make a rule never to wash the

* Some physicians are of opinion that this disorder has the greatest affinity with the yellow fever, now endemic in the West-Indies, where, having been imported from the African shores, its original malignancy acquires new modifications, occasioned by the difference of climates, but which are equally dangerous.

decks

decks in the evening, and that to prevent the bad effects of evaporation in the night, as the sailors, too often, regardless of the consequences, sleep there.

"A sufficient quantity of the river water should be boiled for the use of the ship's company, while upon the coast, as it abounds with dangerous animalcula; and this may be easily done before the coppers are wanted for dressing the daily provisions.

"Should the scurvy make its appearance, you have plenty of purslain, palm-cabbage, and limes, to be procured; and what, perhaps, is superior to any of these, there is a red fruit, in bunches like grapes, of a delicious acid taste, which the natives call *phoota*: besides, allowing the seamen a more liberal diet of soups and broths, in addition to the rigid formula prescribed by act of parliament."

DESCRIPTION *of the* COAST *from* CONGO RIVER *to* AMBRIZ BAY, *and the* RIVER DANDE'. *From* CAPT. DALZEL'S *Journal.*

FROM the westernmost point of Congo River, the Cape Padron of the moderns, the coast trends S.W. by W. about six leagues, to Cape Enganno or Deceit. It is all a red land on shore; along which the sea is much agitated: it then turns S. by W. nearly three leagues, to a headland, called, by the English, Margate Bluff.

The red land is what the Portuguese call Barreiras Vermelhas (Red Cliffs). "When you come from Rio Congo, (adds Pimentel,) you must not go far to sea, for the current does not run so swiftly to the W.S.W., but always sets towards the Red Cliffs; the land within is all very flat, the shore clean, and you can safely anchor in eight or ten fathoms."

At Margate Bluff the high land begins, and continues eight leagues S. by E. to the north point of Bay Funta, from which a reef stretches off about three miles to the southward. This bay lies at the mouth of River Lelunda, and is four miles broad, from its south point to the pitch of the reef, which, in coming from the northward, is to be carefully avoided; you anchor there in 4, 5, and 6, fathoms. The negroes who inhabit around it are not to be trusted.

From the south point of Funta Bay to the River Cousa, known by the high trees at its north point, is about four leagues S. by E. ¼ E., and all low land; thence to Point Palmar the coast extends 13½ leagues in the same direction; it is covered with woods and double land behind. At two leagues southward from the River Cousa lies a bluff point, named, by our seamen, Foreland Bluff, having a small reef around it; 6½ leagues farther is another point, known from its appearance, by the name of Double-headed Cliff; from which Point Palmar is distant about five leagues. The mouth of River Doce lies to the northward of Point Palmar; and Mount Aravat, a mark for this coat, stands four leagues inland to the N.E. of that point.

AMBRIZ lies at the mouth of the river of the same name, between Point Palmar and another very low point, five leagues South from it, which is remarkable by its close green wood, and is named Strong Tide Corner, from the impetuous breaking of the sea. Both points are foul, being encompassed by stony reefs, distinguished into north and south breakers. You may anchor towards the north side, in 3½ and 4 fathoms, muddy ground, about three miles from the factory-houses, and may be supplied there with wood and water. The negroes are very civil, but it is necessary that you should always be upon your guard.

All the country, from Cape Padron to Ambriz Bay and River, belongs to Sonhio, and does not depend on Congo: when you come to the bay from Margate Bluff, you may approach the coast as near as eight and seven fathoms.

The mouth of Ambriz River, according to the observations of Capt. Thomas Brown, in 1786, lies in 7 deg. 51 min. latitude south.

From Strong Tide Corner to Bamba Mount, which shews like an island, and to the E.S.E. of which, one league, you have hard sand, the coast runs to the S.S.E. 3½ leagues, and then makes a bight, where you can anchor in 6 or 7 fathoms; this is Little Mazula Road; to the S.S.E. [*S.E.*] of which, about 4 leagues, lies Great Mazula Road and River; the anchorage there is over against the mouth of the river, in 4 fathoms. The land betwixt the two roads is known by the round hills, standing close together, on the sea-side; they appear like islands, and are named the Seven Hills.

Not far from these is the River Dandé, with a town of the same name, which is the northernmost of the Portuguese settlements. This river can admit ships of 100 tons: its

its south point, called Dandé Point, is a high steep land, flat and barren, that comes down with a tail: within this point, inland, you will see mangoes; but, near the shore, there are only red and white steep cliffs. In the mouth of the river you anchor in eight or six fathoms, and all along the coast in 10 and 12, soft mud.

The COASTS *of* ANGOLA *and* BENGUELA. *Chiefly from* CAPTAIN DALZEL'S *Journal.*

FROM the Dandé Point to River Bengo the distance is about 3½ leagues S. by E.; then the coast, bending to the West, two leagues, makes a bight, called by the name of Bengo Bay: it is all low land, with some trees here and there, and the sea-side steep. At four miles from Bengo Point, the west end of this bay, stands the city of St. Paul de Loando.

ST. PAUL DE LOANDO.—In the south part of Bengo Bay, the main land is low, with white and red cliffs near the sea, and will be seen before Loando Island, which, being still lower, is hidden by it. A league and a half to the north-eastward of the city, and opposite the north end of the island, stands the steep hummock called Morro das Lagostas (Lobster's Hummock); and two miles W. by S. from it, lies St. Peter's Rock and Shoal, on which there is a fort.

To the Portuguese Directions it will not be amiss to add the following, given more at length by our Old Pilot:—

"From Dandé to St. Paul de Loando, or its island, you may run with a S. by W. wind; but, if it blows hard, it will be found difficult; therefore you must go into Bengo Bay, which you safely enter as far as 10 fathoms, and ride there till next day; then you are sure of a land-wind that will carry you to port.

"But, should you come into the bay during the night, and not be acquainted with the place, you must keep sounding along the south shore, as near as you please, the coast being very fair, with now and then a sandy cove. Loando Island is so low, that it cannot be seen when you are in 12 fathoms; though beyond it you perceive the main land, which is higher. Being come so near as to see the island, you will, from the main top-mast, descry the whole of it, and the sea on the east side.

"To the east of the road stands, on an eminence, well defended by forts and batteries, the city of St. Paul de Loando, or Loando St. Paul. It is the capital of the kingdom of Angola, and the most flourishing of all the Portuguese settlements on the coast of Africa. It extends along the shore; abreast of which is a bank, about 600 yards long, and 130 broad, which, at low water, remains dry in many places."

Loando Island extends from N.E. to S.W. *true*, about 6 leagues in length, and forms the port of Angola. It is all a white sand, planted with trees, and cultivated in many parts. From the north end extends a hard sandy reef, with from 4 fathoms to one and a half, to the true N.E. 3½ miles. At the south end of the island is the bar and opening of Curinba, or Corimba, having 5 fathoms water, and defended by fort St. Fernaõ.

TO SAIL into the HARBOUR of St. PAUL de LOANDO, when advancing from the northward, you may approach Bengo Point within half a mile, on a south bearing; then steer towards mid-channel, to the W.S.W., towards the Castle of Santa Cruz, which stands on an eminence west of the town. The castle should be kept a sail's breadth open to the southward of the north-eastern end of Loando Island,* passing over from 19 to 12 fathoms, until you get abreast of St. Peter's Fort, standing on the east of the town, where you may anchor with good holding ground, in 10 or 12 fathoms. Vessels should not venture to pass beyond this fort, as the water shoalens very quickly above it.

In coming from the southward, keep well out to the northward of Loando; or, until you open, on nearly a S.S.E. bearing, a remarkable bluff point, situate about a mile westward of Bengo Point, which you may then steer for, rounding the reef, and proceeding as above described to St. Peter's Fort.

From the outermost point of Curinba the coast runs south-westward 6 leagues, to Sandy Point, called Palmeirinha Point, on account of its palm-trees, green and withered; and from which a sandy reef stretches off nearly 3 miles.

* See the particular plan of the Harbour, on the Chart of the Coast from Cape Formosa to Cape Negro.

To

To the southward of this point lies Sleeper's Bay, and next the River Coanza, or Quanza, whose entrance is half a league broad. Thence, 6½ leagues, is Cape Ledo, standing 12½ leagues South [*S.S.E.*] from Point Palmeirinha.

In Sleeper's Bay, which the Portuguese call Coanza Bay, you may come to an anchor in 6, 7, 8, and 9, fathoms, oazy ground: the marks to know it are, a dark grove of trees in the middle of it, along the sea-side; and to the northward, two round hummocks, like pape.

River Coanza is the southern boundary of Angola: abreast of it you may anchor in from 15 to 12 fathoms, 8 leagues off shore, to 9 fathoms, within one league of it, and have there very good fishing. This river carries its clayey waters with such force, that their thickness is perceived 3 or 4 leagues from its mouth. It has a bar across the entrance, and you can go 43 leagues up the stream, to the city of Masangano.

Cape Ledo (Merry Cape) is a high rugged land, with straggling trees, projecting into the sea; to the northward of it, about 4 leagues, and as far as Black Rocky Point, the coast is all steep hills and green land; there is a sandy cove, called Massoté, close to that point.

Cape St. Bras appears like Portland, and lies 6 leagues South from Cape Ledo; the shore between forms a pretty deep bay; which is bordered by remarkable white cliffs; near Cape St. Bras, on the north side, is a small sandy bay, where you can anchor in from 8 to 4 fathoms.

From Cape St. Bras the coast runs 11 leagues South, to a bluff headland, which, lying to the north of Rio Longo's entrance, is called Rio Longo Point.

From this point the coast, being all cliffs, extends to the S.S.E. about 5 leagues, and then forms a bay, two leagues wide, from the end of the cliffs to the Three Points at the mouth of River Cuba: this is the Bight of Old Benguela, known by two white sandy places, with low woody land, even with the water, and likewise a hill, steep on the sea-side, having trees on the top; you can anchor half a league from them, near the Three Points, in 6½ fathoms water. There is only one Portuguese house at this place.

From the Three Points to Point Morro, as it is named by our sailors, the distance is 5 leagues S.S.W. ½ W. [*S. ½ W.*]; in this interval is another bay, the shore of which is covered with palm-trees, and has several villages, and a sandy strand. Between Point Rio Longo and Point Morro, that lie 11½ leagues nearly north and south from each other, is Bahia Longo, where you have from 6 fathoms water, near the shore, to 19, 25, 30, and 40, fathoms, muddy ground, 3 leagues off shore.

The Portuguese give the name of Morro de Benguela a Velha (Hummock of Old Benguela) to our Point Morro; it is a steep, black, rugged, and stony, point, with white cliffs to the southward.

From Point Morro, the Portuguese settlement and fort, called Novo Redondo, lies 4 leagues S.S.W. [*South*], and at the south of Pullet Bay: you may come to an anchor there in 3 and 2 fathoms, near the shore.

From Novo Redondo the coast, bending to the S.W., stretches in that direction about 21 leagues to the River Cuvo, which is the northern boundary of Benguela. In this course you come first to the Whale's Head, called likewise Muddy Point, 7 leagues S.W. ½ S. [*S. by W. ½ W.*] from Novo Redondo; next to this is Green Point, which lies at the same distance, S.W. ½ W. from Whale's Head; and then, 18 leagues farther, nearly in the same direction, the north point of the River Cuvo, known by its white cliff, which looks like a fort; to the south-eastward of this north point is seen a remarkable sugar-loaf hill, 6 or 7 leagues inland. All this coast, as far as Green Point, is a high land, covered with green, and has several rivers; and, 3 leagues north-eastward of River Cuvo, is a small cove, the best of this coast, called Cotovelo das Ostras (Oyster's Elbow); at the bottom of which you can come to an anchor, well sheltered, in 3 fathoms water, and 7 in the entrance, muddy ground. You may sail all along in 7, 10, 13, and 14, fathoms, 3 or 4 miles off shore.

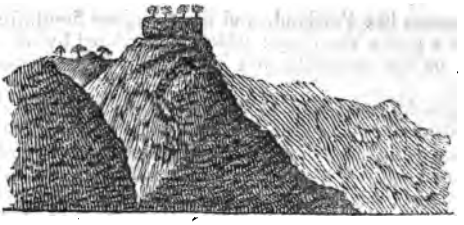
From the white cliff of the River Cuvo to the River Catumbela, on the north of which are salt-ponds, the distance is 5 leagues S.W. ½ W.; you may anchor before the mouth of this river, in 7, 6, 5, and 3, fathoms water. About 4 miles farther to the westward is the north-east point of Bahia das Vacas (Cow's Bay); at the bottom of which stands the Town of Benguela. The point has a spit of sand, under water, running north into the sea, about three-quarters of a mile.

ST. PHILIP DE BENGUELA, capital of the province or kingdom of that name, is a place of considerable trade, and next in consequence to St. Paul de Loando. It is frequented

quented chiefly by the Brasilians. Captain Dalzel found it to lie in latitude 12° 29′; Captain Heywood ascertained the longitude as 13° 28′. It is defended by a fort of fifty guns and two batteries: the anchorage is abreast of the fort, in 4½ fathoms, and half a mile from the shore.*

Of Benguela Bay, the west point is a most remarkable head-land, called, by the Portuguese, Ponta do Chapeo; and, by our seamen, the Bonnet of St. Philip. It appears to be a clump of trees, which are so close and thick that they seem to have been cut with a pruning-knife into the shape of a beef-eater's (bœuffetier's) bonnet; and, though they are luxuriant, all the neighbourhood is quite barren. The point on which they grow is considerably elevated, and can be seen at a great distance. It is composed of materials like those of the cliff below, and covered with shrubs and verdure. The land in the bottom of the bay is double, high, rugged, and barren, except the valley close behind the town, which is covered with verdure.

The following view of St. Philip's Bonnet, at two miles distance, when it bore W. by S. was drawn by Captain Dalzel, in 1790. The trees at the top have since grown thicker.



The Nereus frigate, Captain P. Heywood, visited Benguela in 1811, as shown in note 8, page 5. The Bay, from its extreme eastern and western points, is 7 or 8 miles broad, and about 3 deep to the beach. Within the transit line of the two points, and more than half way over to the east, the depth of water is 17 fathoms, and the depth gradually decreases to 6 fathoms within a mile of the shore. The best anchorage is with the flag-staff and western church in a line.

The country around abounds with excellent fruit and vegetables, but the water is not of the best quality, nor to be procured without some difficulty, by baling it from wells of considerable depth, at about 300 yards from the beach. The Nereus was well supplied by the governor with bullocks, sheep, goats, hogs, fruit, and vegetables. A great quantity of fine fish were caught by the seine in the bay.

ST. PHILIP'S BONNET *to* CAPE NEGRO.

THE immense and desert coast from Benguela to the Cape of Good Hope is so imperfectly known, that it becomes impossible to describe it with the accuracy and detail which it requires, and we must content ourselves with inserting such remarks as we have been able to collect, when they happen to agree.

From St. Philip's Bonnet the coast extends 14 leagues nearly W.S.W. [*S.W*] to Point St. Francisco; to the N.E. of which are some salt-ponds, well known on the coast (says Pimentel). This point has a rocky reef, stretching west 2 leagues into the sea. To the southward of it lies Tower Bay, where the anchorage is in 10 or 12 fathoms water: and then the Bay of St. Mary, whose opening is about 3 leagues wide. This is known by the islets called the Three Friars, to the north of it; its shore is steep, with a sandy strand, and no water fit to drink: it seems to be the Klapmuts, or Biggins Bay, of the Dutch, which has 25, 20, 14, and 10, fathoms, coming in. Three and a half leagues west [*W.S.W.*] from Cape St. Roque, which is the west point of Bay St. Mary, lies the Round Hill, a mark for this coast: and, 4 leagues to the south of it, you come to the entrance of River Guboro, the southern boundary of Benguela.

The coast, trending thence towards the S.S.W. [nearly *South*,] at the end of the first 10 leagues you meet with the rocky reef and breakers of St. Nicolas, which extend west-

* See the particular plan of the Bay, in the Chart of the Coasts from Cape Formosa to Cape Negro.

ward

ward above 2 leagues into the sea; thence, 7 leagues, you find Village Bay, or Bahia das Aldeas, called also Tiger's Bay, where you have good anchor-ground; and to the southward of which stands a high mountain, called O Velho (the Old Man); this mark lies 28 leagues S.W. by S. [*S. by W.*] nearly from the round mountain above mentioned.

From the Old Man to Cape Euspa, the north point of Little Fish Bay, the distance is above 12 leagues S.W. [*S.S.W.*]; in that course you meet first with the two small bays called Flies Bay and Turtle Bay, then with Little Fish Bay: in the entrance of this last bay there are 70 fathoms, but you can anchor in 12 fathoms, a mile from the shore; its west point, called, by the Portuguese, Point Annonciation, is encompassed with sands, which project about three leagues northward, and reach the middle of the bay.

Near Point Annonciation begin the hills and high cliffs along the coast, that extend six or seven leagues S.S.W. as far as the entrance of Rio dos Flamengos, or Dutch River; and, about mid-way, stands Monte Negro, which is a mark seen at a good distance. Between the south point of Dutch River, named Cape Real, and a bluff point about three leagues to the southward of it, called Bird's Cape, lies Bird's Bay, wherein you can anchor.

From Bird's Cape you come to another bay, five or six leagues long from N.N.E. to S.S.W., and about 3 leagues wide from the Cape to the sandy point on the peninsula of Cape Negro; this is Cape Negro Bay, called likewise Sea-Wolves Bay; the land on the east side of it is broken land, with a red and yellow strand. The peninsula is low land, with sandy hills, and its north side surrounded with sands; they stretch about two miles off the sandy point, and close to them you have five and six fathoms water, increasing to 10, 12, 14, 16, and then to 22, at 1½ league from the shore: within the bay there is good fishing, chiefly of the rocket-fish. The north side of the peninsula is two leagues long from east to west; and, about three leagues from its west point to the S.W., lies Cape Negro, in latitude 16° 2′ South.

Cape Negro is the summit of the obtuse angle, formed by the two sides of the peninsula that bears the same name; the north side of it running, in a *true* direction, S.S.W. and N.N.E.; the south side S.S.E. and N.N.W.; this is surrounded with a reef of heavy breakers, that extend about 1½ league to seaward, and must be carefully avoided.

The Portuguese ships, bound from Brasil to Benguela and Angola, make Cape Negro, either in coming from the sea or in standing from the southward along the coast. A pillar of alabaster, bearing the arms of Portugal, was erected for a sea-mark on this headland, by Barth. Diaz, in 1486.

All the coast, from Benguela to Cape Negro, is occupied by wild negroes, whose villages are very few, and who, in some parts, as about Little Fish Bay, are said to be cannibals. In all this course you find generally from 50 to 60 and 70 fathoms water, two or three leagues off shore.

Captain P. Heywood, in His Majesty's ship Nereus, 27th January, 1811, made the coast in latitude 16° 18′, which part appeared to be flat, sandy, and streaked perpendicularly with black and brown streaks. The ship was eight or nine miles off shore, in 12 fathoms, muddy bottom. From this spot, the whole of the coast in sight to the northward had the same brown sandy appearance; and it might be seen at the distance of seven or eight leagues, were it not for its light sandy colour, and the hazy atmosphere that generally prevails. South-west winds and a heavy swell rolling in from that quarter upon the shore, renders a near approach unsafe.

Captain Heywood, by his chronometers, found the longitude of the coast, in 16° 1′ South, to be 11° 54′. This must be Cape Negro, or very near it, although no projecting land could be discerned at the distance of three leagues.

CAPE NEGRO *to the* CAPE *of* GOOD-HOPE.

To the south-eastward of Cape Negro Breakers lies the River Bembarooghe, having an entrance half a league broad, and inhabited on both sides. The south point of this river is a black broken land, to which the Dutch have given the name of Point Cunegunda.

Five leagues southward of this lies the north-west point of Tiger's Peninsula, that extends eight leagues from *north to south, true*, and is but one league in its greatest breadth. Between it and the main land is Fish Bay, or Great Fish Bay, wherein you have

have from 20 fathoms in the entrance, two leagues broad, to 12 and 10 near the middle of it, which decrease gradually to 7, 6, 5, and 3, near the shore. Plenty of fish may be gotten there. The peninsula is all sandy, and the isthmus, by which it is connected to the main land, is not above one-third of a mile broad.

The North-west Point is a low white sand, which lies in 16° 29′ 45″ South, and in 12° 3′ East.

At some distance from the isthmus, or the south point of the Peninsula, in about 16° 53′ South, the land is bordered with downs, and extends to Cape Ruy Piz, or Ruy Pirez das Neves, about 20 leagues, *S. by E. ½ E. true*, and forms several slender bays.

The shoal and breakers of Antonio Casado de Vianna, said to lie at 70 or 80 leagues from this coast, have already been described in note 9, page 24.

Southward of Cape Ruy Piz, 21 leagues, is Cape Frio, or Cold Cape. The land between is high, with a clean sandy shore, and 13 or 14 fathoms water at a league from it, though very foul, and bad sounding. To the north of the cape is Angra Frio, or Frio Bay. The coast low, with white sand, and you will have 30 fathoms, oazy ground, a league from the shore. The land near the bay is very steep, and known by three hills, the middlemost of which is the largest. The coast, from Cape Negro to this bay, is scarcely inhabited, and belongs to the Cimbebas, a black nation.

From Frio Bay, the coast, being all fair, with double land, trends South, [*S.S.E.*] six or seven leagues. The sea-side is full of trees, with sandy hills; you will have 16, 17, and 18, fathoms water within 2½ leagues from the shore: this part of the coast is what the Portuguese call Praya das Neivas, or Snowy Beach.

The coast hence takes a more westerly direction to *Walvisch Bay*, about 80 leagues from Cape Frio. It has been vaguely and inaccurately described by the Portuguese, and we know of no other description. From this it appears that there are several breaks in the coast, that the land between 21° and 22° South is high, and this high land terminates on the north by a cove named St. Ambrosio. The most remarkable point of the high land is Cape Serra or Sierra, or Mountain Cape, in 21° 53′ South. The shore southward of this cape is distinguished by white sandy hills.

From Cape Serra to Walvisch Bay, the distance is about 17 leagues. Two little muscle-islets, on the eastern side of this bay, are probably the *Farilhoens* of the Portuguese.

WALVISCH BAY.—According to a particular plan of this bay, made by a British officer, in 1786, it is eight miles broad, and four deep, with 10 to 7 fathoms water in the opening, which decrease gradually to four and two, about one mile from the shore, where you have good anchoring-ground. It is known by a remarkable hill to the northward of it, with several peaks on the top, which are sharp and inclined towards the N.E. The west point of the bay is very narrow, and has a small sandy reef to the northward. It lies in 22° 59′ 57″ South. Within this peninsula, on the west side of the bay, the water is shoal. At the bottom of the bay the coast is low and marshy; and from a lake here is a road to a native village, distant about five miles. It is high water in the bay, on full and change days, at 1 h. 54 min.

The shore, northward of Walvisch Bay, has a sandy beach, which you coast along in 10, 13, 15, and 16, fathoms water; and, from the west point of the latter, the coast, which is low, extends, according to the Portuguese, 15 leagues *S. by W. true*, to Ponta dos Ilheos, said to be encompassed by reefs, stretching a great way into the sea. Within this point is the *Sandwich Harbour* of the modern Charts, which is small, and has only three fathoms of water.

ALLIGATOR ROCKS.—According to the observations made by Capt. Wood, of his Majesty's ship Garland, in 1798, in latitude 24° 38′, a reef, called by him the Alligator Rocks, lies six leagues from the shore, with breakers to the S.W., two leagues at least.

SPENCER'S BAY, in from 25° 44′ to 25° 48′, may be known by Mercury Island, which lies nearly off the middle of it, and is nearly a mile in length. The coast eastward is a sandy beach, with a high surf along it. The depths are from 7 to 4 fathoms. A vessel may anchor to the S.S.E. of the isle, but is here exposed to northerly and southwesterly winds.

ANGRA PEQUENA.—The south side of Angra Pequena, to which we have assigned the latitude of 26° 36′ 50″, is represented, in a plan of the Cher. Dumaiy, of 1793,

1793, as in 26° 30′ 26″. This side forms two harbours, both within Cross Point,* and there is a cove on the outside, between that point and an islet called Meerman Isle. There is good anchorage in the middle of the bay, within Cross Point, in five and six fathoms, bottom of fine sand, and sheltered from S.E., South, and S.W. winds. Spring-tides here rise seven or eight feet.†

ELIZABETH BAY, in 27° South, is a very slender bay on the coast, sheltered by Possession Island, which lies to the west of it. The isle is 3¼ miles in length, and has several rocks, above and under water, at its north end, with sunken rocks at its south end. The space between it and the shore is from two to three miles in breadth, and has in mid-channel from 11 to 7 fathoms. Within the middle of the island, a vessel may anchor in from six to four fathoms, but is exposed both to northerly and southerly winds. On the east side, in 27° 1′ South, is a landing-place for boats. Here the tide, on the full and change, rises about six feet.

From ELIZABETH BAY to CAPE VOLTAS, or *Winding Cape*, the course is South [*S.S.E. nearly*], distance 40 leagues. The *Angras Juntas*, or Namaquas Bays, lie about half-way between, and have an island before their common entrance.

CAPE VOLTAS, in about latitude 28° 42′, forms the south point of Orange or Gariep River: a rocky and sandy shoal surrounds it, to a very considerable distance; to the southward, adjoining the coast, are several islets. From the end of the reef, extending from Cape Voltas, the coast trends S.S.E. nearly 30 leagues, to the Koussie River, where some Hottentots may be found. The space between is very hilly, and towards the southern part appears in high broken mountains.

ST. HELEN'S BAY.—St. Martin's Point, in latitude 32° 40′, forms the western side of St. Helen's Bay, which lies between that point and Cape Deseada. The coast hence, more than 100 miles to the northward, is represented as sandy plains, with shrubs. Cape Deseada is a high bluff headland, about seven leagues to the N.E. of St. Martin's Point. In the bay, between, are regular soundings of 12 to 10 fathoms, decreasing to six and four near the shores. The ground is mostly of sand and shells. It is, however, to be observed, that the whole of the western shore, to the bottom of the bay, is bordered with a continued reef of rocks, half a mile in breadth This reef terminates at Berg River, a small stream, which falls into the bottom of the bay, and has a few houses on each side, with several springs near it.

In summer, when southerly winds prevail, the anchorage here is safe; the bay being open only to winds from between the north and west. It is equally unsafe during the winter, when north-westerly winds may be expected. It is high water here at 2 h. 30 m. The variation is about 24° West.

There is said to be a sunken rock off shore, at about four miles to the southward from St. Martin's Point.

SALDANHA BAY.—The entrance of this fine harbour lies between 33° 5′ and 33° 8′ South. On its north side, at the entrance, is a little isle called Malagassen, and on its south side another called Jutten. Two miles and a quarter eastward of Malagassen is a similar isle, *Mascus*. Each is surrounded by a reef. These isles are too low to be discerned at a distance, and, in steering for the bay, the latitude will be the best guide. The entrance is broad and clear, but Mascus may, if requisite, be passed on the northern side. It may be approached to half a cable's length.‡ The wide passage on the south is, however, to be preferred. A bay to the N.W. of Mascus is called *Bevian's Bay*, and another, more to the northward, Hoetjes Bay: these are divided by a promontory, which terminates in sunken rocks.

In the principal channel, between Jutten and Malagassen, the least depth is 13 fathoms, bottom of sand. Mascus, with the north and south points of the main land, are bold-to. Within 50 fathoms of the island are six and seven fathoms, clear ground; but within 50 yards are also 7 fathoms, and foul ground: the same from the island to the north point of the main land, forming Hoetjes Bay, off which, at about a cable's length, is a rock not larger than a small boat, dry at low ebbs.

* So called from a marble cross erected by Barth. Diaz, in 1486.

† According to Capt. Wood, a dangerous shoal lies 11 miles off, from the shore of Angra Pequenha, in about 26° 35′ South.

‡ See a particular plan of the harbour.

Hoetjes Bay has regular soundings of 5½ to 4 fathoms, sand and shells, with from 7 to 10 fathoms to the eastward. The best anchorage is in six fathoms, with the west end of Mascus and the southernmost extremity of the bay in one, or a little farther in, in five fathoms, where you will be completely sheltered. It is here to be noticed that, N.E. from the point forming the bay, is a large sunken rock called the Blinder-klip, which is not visible even at a low ebb, when there is three feet water over it, unless the wind blow strongly. The distance of this rock from the sandy beach of the main is more than a mile; the depths between, from seven to four fathoms, sand and broken shells. The Blinder-klip lies with the Mouse Back, a high piece of land on the northern shore, and Mascus Island in a line.

At the entrance of the Lagoon, on the south of Saldanha Bay, are two islands, Schaapen *(Sheep)* and Mœuven; two miles within these, on the western shore, is the *Company's Post*, the channel to which cannot be attempted by verbal directions only. In working up to Schaapen, keep your lead going, as the soundings to the north-eastward are regular, and will be your best guide; but, in standing back to the S.W., bring the N.W. end of Schaapen Island in one with a saddle-hill on the western side of the Lagoon, and then put about, as the water shoalens quickly afterwards. Water is scarce, and to be obtained only by sending a boat for it, half-way up the Lagoon on the east.

Saldanha Bay is an excellent place for ships that require the repair of any damage caused by stress of weather at sea. Bullocks and sheep may be obtained from the farmers at a moderate price, and plenty of fish may be caught, either with the net or with hook and line. The inlet called *Riet Bay*, on the S.W. side, is the best place for the net and seine, it having only 6 or 7 feet of water, with sandy ground. To other places, being rocky, the hook and line only are adapted. The islands swarm with wild rabbits.

The time of high-water in Hoetjes Bay is 2 h. The rise is from six to seven feet.

DASSEN or CONEY ISLAND, in latitude 33° 24′, lies about six leagues to the southward from the entrance of Saldanha Bay, at a league and a half from shore, and south-west of a headland named *Eyserberg*. It is a low sandy island, about a league in length. The shore is foul on the west side, with breakers that run out half a league into the sea, but fair on the east side; and, on that side, in 16 fathoms, at about a gun-shot from shore, the bottom is of white sand, with good anchorage. Capt. Horsburgh says, "When we tacked four miles from the west part of it, in 17 fathoms sand, the sea broke over a sunken rock, distant 1⅛ mile from the S.W. end of the island. The south side is said to be rocky, but there is anchorage within it."*

ROBBEN or PENGUIN ISLAND lies at the distance of seven leagues S. by E. [*S.E. by S.*] from Dassen Island, and five miles northward from the south side of the entrance of Table Bay. It is rather higher than Dassen Island, and about two miles in length, from north to south. The western and southern sides are surrounded with heavy breakers, and a sunken rock, called the *Whale*, lies at the distance of nearly a mile and a half from the southern point.† Ships may anchor off the eastern side of the island, in from 12 to 10 fathoms, at a mile or a mile and a half from shore, or within three-

* The following extract from the log-book of the ship Mornington, Capt. Dunlop, 20th Sept. 1814, shows the necessity of caution in approaching Dassen Island, during the night. "At 4 *p.m.*, fresh breezes and clear, in 37 fathoms; at sun-set the outer breakers of Dassen Island S.S.E. ¼ E., body of the island S.E. ¾ S., body of the Table Hill, Good-Hope, S. ¼ E. At 6 h. 30 m. tacked ship; at 9 sounded, ground at 42 fathoms; at 10 again sounded, 52 fathoms; at 10 wore ship, standing in towards Dassen Island; at 11 h. 30 m. *p.m.*, saw breakers a-head, close to the ship; tacked immediately in 30 fathoms, rocky ground, and had just gathered way on the larboard tack, when the ship *struck once violently forward;* kept away N.W. for a cable's length, and sounded in 32 fathoms, the breakers distant one quarter of a mile."

It was concluded, from the heavy sea, running at the time, that the false-keel and fore-foot had received material damage, although the ship made no water. From the explicit directions previously laid down, no idea of danger was entertained, and, had not the night been very clear, the ship must evidently have been lost. At 2¼ *a.m.* tacked ship in 50 fathoms; at 3 tacked in 25 fathoms; at 4½ h. tacked in 50; at day-light the body of Dassen Island bore East; at 7 *a.m.* sounded in 25 fathoms, the island N.E.; at 9, 10½, and 12, tacked ship; at 8 *p.m.* sounded in 27 fathoms; at 8¼ in 30 fathoms; at 9 in 20 fathoms; at 10½ in 30; at 11 h. 25 m. in 20; at 11 h. 30 m. in 25; at 12 h in 22. At noon, moderate breezes and clear, Dassen Island N.W. ¼ N. nearly 3 leagues, and the Table Hill S. ¾ W., about 9 leagues.

† See the particular plan of the Bays of Good-Hope, on the general Chart, or the separate Chart of Table Bay, &c.

quarters

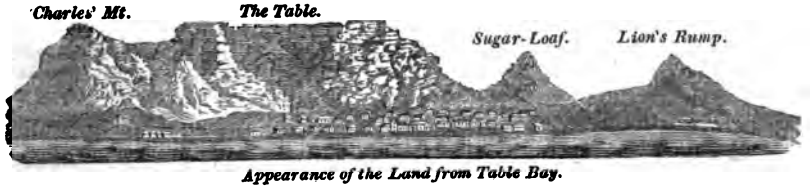
quarters of a mile from the island, in nine or seven fathoms, and sheltered from a S.W. swell, by the island and reefs. A ship may thus lie until the wind comes to S.W. or West, which generally happens in the morning during the fair season, then weigh, and, if requisite, reach the anchorage in Table Bay.

The CAPE TOWN of Good-Hope stands on the south side of Table Bay, in about 33° 56′ 15″ South, and 18° 28′ 30″ East, as shown in the Table, page 4. Capt. Horsburgh gives the latitude, from the mean of six meridian altitudes, as 33° 58′. The difference is not surprising, considering the variable state of the refraction here. Capt. H. says, "In this bay it is difficult to get rates for chronometers on ship-board, in the fair-weather season; for correct altitudes of the sun cannot be obtained, the refraction is so mutable near the horizon. During seven days stay here, I took nearly 100 sets of fore-noon and afternoon altitudes of the sun, to *correct the rates* of seven chronometers, but did not get their rates very exact. Objects in the horizon, at the entrance of the bay, were sometimes reflected double; a picture of a vessel under sail was seen distinctly in the atmosphere above her, and other objects were reflected in various ways. It is, therefore, adviseable, if a ship remain several days at this place, to take the chronometers on shore, where their rates may be corrected by altitudes taken with an artificial horizon, or in a basin of water, when there is little wind.

"To the westward of the cape, in the summer months, the atmosphere is, at times, remarkably clear: the planet Venus, and even Jupiter, may be often seen at mid-day. At about one degree west from Table Bay, at 2 *p.m.*, January 27, 1798, when the altitude of the sun was about 55°, then shining bright, I observed the latitude, very correctly, by the planet Venus, on the meridian. This luminary was bright, and distinctly visible to the eye, without a telescope, during most part of the day."

TABLE BAY *and the* CAPE *of* GOOD-HOPE.

The Cape of Good-Hope, on approaching either from the westward or the eastward, has the appearance of a large island, when you are at such a distance as not to be able to discern the connection between the neck of its mountains and the other mountains. All the land about the cape is very lofty, but the highest and most remarkable is the Table Land, a mountain 3550 feet high, quite level on the top, and falling down perpendicularly at both ends, till it joins the high lands near it; it can commonly be seen, in the offing, at the distance of 10 leagues. The eastern part of the Table Land is connected with a high peaked hill, called the Devil's Berg, and also Charles' Mount; its western part is connected with another hill, which, from its shape, has the name of the Sugar-Loaf, and on the top of which a flag is hoisted, when any ships are in sight. To the north-westward of the Sugar-Loaf is another mountain, much inferior in height, and called the Lion's Rump, on the top of which a flag is occasionally hoisted.*



Appearance of the Land from Table Bay.

Whenever, in the summer, the Table Land begins to be covered with a white cloud, (the *Table Cloth*,) it indicates a strong S.E. or E.S.E. wind, which, soon after the mountain is completely clouded, comes on and blows excessively hard, sometimes for two or three days together: with this wind ships frequently part their cables, or bring both anchors a-head; therefore it is usual, so soon as they are moored in Table Bay, to strike their yards and top-masts.

* See note 20, pages 7 and 8. An appearance of this land is given on the Chart, as seen by Capt. Steuart, 15 leagues off.

The

The prevailing winds here are from S.E. and N.W. Others seldom last longer than a few hours. The East and N.E. are less frequent than any. The North and N.W. commonly blow in hurricanes, and bring on foul weather. The S.E. winds blow more or less, in almost all the months of the year, but chiefly in the summer, or fair-weather season. The summer continues from October to April; then you generally have, in the mornings, regular sea-breezes from S.W. and West, which last till noon, and sometimes longer; they are followed by a S.E. and E.S.E. wind, coming off the land; this mostly blows fresh the remaining part of the day, and frequently all night, when the sea-breeze comes off again. In the months of May, June, July, and August, the West and S.W. winds blow strong, being frequently accompanied with fogs and cloudy weather, but they are soon over. Sometimes violent N.W. winds prevail for several days together, and by fits in the other months; the sky at this time is constantly clouded, and they generally end in rain.

It is extremely dangerous to remain in Table Bay after the 10th or 15th of May, for the N.W. winds may then be expected to set in, and they blow so violently that no ship can possibly ride it out. The Dutch never suffered their ships to be there after that time. North-west gales are experienced in every season, but they seldom blow home in the bay from November to May, and several ships have been driven on shore by them even in the month of April.

An eddy current may commonly be found setting along shore to the southward, from Dassen Island to Table Bay, while, at the same time, a regular current is setting around the cape, and to the north-westward. Vessels bound to Cape Town should, therefore, always make the land to the southward of the bay, and never to the northward: from want of this precaution, some have been driven up to Dassen Island, 11 leagues to the northward of the bay.

DIRECTIONS for SAILING.—All ships going in to Table Bay enter between Green Point and Robben Island. On entering, the island will be seen first. A flag is hoisted on the south side of the island when ships are in sight.

In sailing out of the bay, ships pass to the northward of Robben Island, and, therefore, in a direction quite contrary to that by which they enter. Some, attempting the shorter cut, have found it so dangerous, that they were obliged to return and go through the north channel.

ROBBEN or PENGUIN ISLAND has already been described (page 122). This island should not be approached nearer than to two miles, as the Whale Rock lies nearly a mile and a half to the southward of it.

From the foot of the Sugar-Loaf to Green Point, several rocks, visible above water, lie at some distance from shore, and there is no hidden danger. Give these rocks a reasonable berth as you run in, and you will shoalen your water gradually from 34 to 36, 26, 20, 16, and 12, fathoms, rocky bottom, so that there is no anchorage there. You may borrow upon Green Point to 10, 9, and 8, fathoms, without danger: then steer up the bay, and you will have 8, 7, or 6, fathoms, regular soundings, but rocky, till you get about a mile to the eastward of Green Point, when the bottom becomes sandy, and fit for anchorage.

Should it happen that, when abreast of Green Point, you meet with furious breezes from S.E. or E.S.E. blowing so hard out of the bay that your ship cannot turn to windward, which is frequently the case, then you must bear away for Robben Island, taking care not to go within two miles of its south or west sides. A ship may anchor off the north end of the island, in 9 or 10 fathoms; but, it is to be observed that, from the N.W. end the reef stretches out about half a mile.

Should a south-easter blow so strong that a ship cannot bring up under Robben Island, and be driven to sea, she should haul round as soon as possible, and make short tacks to the southward of Green Point, under the lee of the high land, until the violence of the wind is abated.

The west side of Table Bay is clear ground all over, but the east and north-east part is all foul. You may anchor in Table Bay, opposite the town, in 7, 6, or 5, fathoms, good holding ground. The best berth in the bay is the house on Robben Island bearing, by compass, N. $\frac{1}{2}$ W., Green Point N.W. $\frac{1}{2}$ N., the flag-staff on the Lion's Rump W. $\frac{1}{2}$ S., and the Lion's Head S. $\frac{1}{2}$ W., in 5 fathoms water, distant from the town one mile, and from the nearest shore half a mile. You have another good berth in 6$\frac{1}{2}$ fathoms, about

1$\frac{1}{4}$ or

1½ or 2 cables' length farther to the eastward; but, as there are vessels almost always riding in this bay, you can be at no loss for finding an anchoring place.

At a time when N.W. winds are expected, it is not prudent to anchor in less than 6 or 6½ fathoms; as here the swell runs more regularly than in shoaler water. In this season ships should ride with a whole cable, or more; for they may drive, if the anchors be not well seated in the sand; and, if driving, it is difficult to bring a ship up, as the anchors scrape the surface of the ground, while a heavy sea operates on the ship.*

Table Bay is an excellent place for all kinds of refreshments; wood is scarce and dear, but there is plenty of good water. Sheep may be obtained at very moderate prices, with other provisions, vegetables, and fruits. The water is brought down in pipes to the head or wooden pier, where boats fill it with hoses, leading from the pipes to their casks. The air is here generally cool in the night, although the sandy soil is greatly heated by the sun during the day: and this causes land-winds from Table Bay to come off in hot gusts in the evenings, when their course is over such ground.

The new moon makes high water at the Cape at half past two, *p. m.*, and the water in the bay seldom rises more than 5 feet, unless after a hurricane, or by some extraordinary cause.

At about 11 leagues south of Table Bay lies the pitch or extreme point of the Cape of Good Hope, the position of which is shown by the Table, page 4. The irregular form and variegated face of the land can be best understood by reference to the particular plan on the Chart. The little harbour called Hout Bay, 3 leagues to the southward of Table Bay, is described therein. This little bay may occasionally afford shelter, and the Dutch formerly sent ships to winter here. The coast around is high, and generally rugged. The way in is close along the eastern shore; having passed through the middle of the entrance, luff up under the west point, and there anchor.

DESCRIPTION *of* FALSE BAY, *and* DIRECTIONS *for sailing into and out of* SIMON'S BAY.

The Bellows, a large rock, even with the water's edge, lies with the south pitch of the Cape bearing North, [*N.N.W.* ¼ *W.*] 2½ miles, and the Cape Point N.E. ¼ N, [*N.* ¼ *E.*] at nearly the same distance. From the rock, which always breaks, Muisingberg, in the N.W. corner of False Bay, is shut in with the Cape Point, and the Peak of Cape False bears true *East*.

* The difficulty of sometimes making Table Bay is exemplified in the following extract from the Journal of the Mornington, Capt. Dunlop.

Nov. 25. 1813. Lat. 34° 39′ S. Long. per chro. 19° 3′ E.

Squally appearance with thunder, vivid lightning, and rain. In third reefs of the topsails; at 5 hauled up for an appearance like land; squally, with thunder, vivid lightning, and heavy rain. In 4th reef of the topsails, and reefed the foresail. At 7h. 30m. *p. m.* furled the foresail and mizen topsail, and hauled to the wind on the starboard tack. At 1h. 30m. *a. m.* fine and clear; wore ship, and set the foresail: wind S.W. by S. Daylight, out 3d reefs, and made all possible sail to make the land; hauled to the wind on the larboard tack. At 8 *a. m.* moderate breezes, with a thick fog, impossible to see at 100 yards distance. At 9 *a. m.* saw the top of the mountains, above the haze, bearing E.S.E. Hove-to and sounded, 110 fathoms, no ground; wind S.S.E. Saw the land at interrals. Wore and hove-to on the starboard tack; at 9h. 30m. wore round; at 10 saw the Cape of Good-Hope and Hang-klip in one, bearing E.S.E. by compass, distant from land about 8 miles. Long. at this time, by chro. 18° 25′ W. Made all possible sail, and unstowed the anchors, bent the cables, &c. &c. Noon, body of the Table Mountain N.E. by N.; Sugar-loaf N.E. ¼ N. Lat. observed at noon 34° 17′ South, strong S.S.E. gales, with heavy gusts. Standing along shore, at 1 *p. m.*, treble-reef'd the topsails, and furled the foresail and mainsail. At 2, very heavy gusts of wind; clewed up the topsails, and furled them. At 3, more moderate, as we got towards Green Point; set the foresail and topsails. Under Green Point, wind all round the compass. At 4-30, rounded Green Point; at 5, saw it was blowing a severe gale in the bay, so as to be impossible to work to windward: Came-to with the best bower, in 10 fathoms water, fine sand, under the Lion's Rump, with the outermost battery open; wore away 56 fathoms of cable, and down topgallant yards. Strong gales, with heavy squalls, during the night, at S. by E. Bearings, Lion's Rump flag-staff S.W. by S.; outer part of Green Point reef W. by S.; outermost battery S. ¼ W.; body of Robben Island N. ¼ E.; Sugar-Loaf S.W. At 5 *a.m.* Nov. 27, weighed and run into Table Bay.—*(Communicated by Mr. Wm. Barclay.)*

Another

Another Rock, the ANVIL, of 10 feet water, lies with the Cape Point bearing N.N.W. [*N.W. ¼ W.*] nearly two miles, and the Bellows Rock W. ¼ S. [*S.W. ¼ W.*] 2½ miles. This rock also lies with Charles' Mount (Table Bay) just open with Muisingberg, and Poulsberg South Hill nearly north.*

There is a passage between the Bellows and Anvil, with 10 fathoms in the shoalest part; but it is much safer to pass at a distance to the southward, than to incur risk, in a narrow channel, where the ground is foul, and the current rapid.

FALSE BAY, as shown by the Chart, is formed by the peninsula of Good-Hope on one side, and the Hottentot's Land, above Cape False, on the other. Cape False has a steep bluff, resembling a quoin, which may be seen eight leagues off. Without the line of the two capes is the rocky bank, called *Whittle's Bank*, on which the soundings vary from 16 to 35 fathoms: it is about two miles over, and the shoalest water is with the Cape Point N.N.W., and Cape False Peak E.S.E. Within this bank the depths are 40 and 45 fathoms; without it, 40 to 50 fathoms.

In the middle and eastern part of False Bay the ground is generally foul, and unfit for anchorage. On the western side, at four miles from shore, is the TRIDENT ROCK, having only 12 feet over it. This rock is about 20 feet long, and 10 broad; but there is a rocky bank surrounding it, of uneven soundings, and two cables' length in diameter, having from 5 to 15 fathoms of water. The Trident is steepest on the S.E. side. At 40 fathoms south of it is the Whittle Rock, of 4½ fathoms; and there are several rocks at about a cable's length to the N.W., having four and five fathoms.

From the Trident Rock, the Cape Point of Good-Hope bears S.W. ¼ W. 7¼ miles; the north point of Little Smith's Winkel Bay N.W. by W. ¼ W. [*West*] four miles; and Noah's Ark, on the south side of Simon's Bay, N.W. by N. 6 miles.

A ship from the southward, on approaching False Bay, will descry the ridge of rugged mountains that terminate in Table Bay. In clear weather the Table Mountain may be distinguished at the distance of 20 leagues. On the eastern side of False Bay, from the pitch of False Cape, northward, another ridge of mountains extend to the bottom of the bay, and thence to the north-eastward. The interval between the high lands on the two sides of the bay is low and level; and some mountains, which may be seen over it, are at a great distance up the country. The False Cape, on the eastern side, so much resembles a gun-quoin, that it cannot be mistaken.

On coming into the bay from the westward, with a N.W. wind, a ship may pass to the southward and eastward of the Bellows and Anvil, at the distance of two miles, or according to circumstances. From abreast of the Bellows, at two or three miles, haul up no higher than E.S.E. or E. by S., until you have run five or six miles in this direction, whence you may steer to the E.N.E. and N.E. till the cape bears W.N.W., and you will be clear of the sunken rocks. In advancing thus, you may always gain a proper anchoring ground, in case of a calm or an unforeseen shifting of the wind.

SIMON'S BAY.—Four leagues to the northward of the Cape Point, within False Bay, and at the foot of the highest mountain on the coast, lies Simon's Bay, into which you may put, in that season when Table Bay is unsafe, that is to say, in the months of May, June, July, and August, or when other circumstances render it necessary. Though this place is not more than a large cove, sheltered only from the winds between the North and S.E. coming by the West, yet those of the other quarters, which come from the bottom of the bay, or from the mountains bordering the coast, never blow there so strong as to endanger the shipping; so that it may be looked upon as a safe retreat, wherein you may lie sheltered from all winds: besides, at Simon's Bay, you meet with all the supplies which a vessel may need after a long run, or in case of damage in her rigging. Here are magazines of marine stores; and victualling, with other necessaries, are procured from the Cape Town, which is not above six leagues off, and they are brought in carts. You may wood and water here as readily as in any port of Europe; and even, in case of necessity, heave down by a hulk.

The country being mountainous, little or nothing is produced here, and there are few houses, exclusive of the public buildings; yet, as the bay becomes more frequented, there can be little doubt of an increase. A commodious harbour might be formed by building a pier on the reef, which lies off the south battery. This pier, and another in Gordon's Bay, on the opposite side, for small vessels, would probably be the means of creating a

* It has been asserted, and probably with truth, that there are other rocks near the Anvil. But the Anvil appears to be the rock on which the Colebrooke was lost, in the year 1778. At a short distance without it the depth is 30 fathoms.

market

market for the produce of the eastern part of the colony, more convenient than that at Cape Town.

At a small distance from the south point of Simon's Bay lies a small islet, or rock, in form of a barn, and, from its appearance, called Noah's Ark. To the N.E. of this, three-quarters of a mile off, you see a small reef at the water's edge, called *Roman Rocks*. The common passage for vessels lies between these two.

Seal Isles.—At about two leagues E. ½ S. [*E.N.E.*] of the Roman Rocks, is the Seal Island, surrounded with rocks above and under water, some of which extend considerably to the southward; and, three miles eastward of these, is a shoal, which always breaks. Ships, turning to windward, should be cautious when approaching these dangers.

In Simon's Bay, thirteen or fourteen sail of ships may lie moored in safety. The new moon makes high water here at half-past three. The tide seldom rises more than three feet, except after a storm, or some other circumstance. There is no current to be perceived in the bay; the soundings are also regular, with a clear sandy bottom.

As you draw near Simon's Bay, you will easily distinguish its entrance by Noah's Ark, which is a smooth and level island, and at a distance resembles a pontoon; but the most conspicuous mark, and which you discover the farthest off, are those white sand downs appearing like snow in the hollows between the mountains to the N.W. of Noah's Ark, as they are represented in the view of the land taken at K in the plan of False Bay, by Capt. Huddart.

You may coast along near Noah's Ark, as it is steep-to, and has nine fathoms water close to it, leaving the Roman Rocks to starboard. The depth between Noah's Ark and the Roman Rocks is from 10 to 15 and 16 fathoms water; from this position you should steer for the White Sand Downs quite to the anchorage.

In working into Simon's Bay you may sail on either side of the Roman Rocks, there being a clear channel between the rocks and bay, and more convenient with the winds from the north-westward, as it is double in width.*

The best station you can lie in, in the road, is to bring Noah's Ark and the False Cape in one at S.S.E. ½ E. [*S.E. by E.*]. The gate of the magazine, which is distinguished from the other buildings by its size and roof, should bear S.W. by W. [*S.S.W. ½ W.*], and you should lie about one mile from shore, the Roman Rocks bearing S.E. ½ E. about two miles distant, and the south or east point of Simon's Bay, at the extremity of which many rocks are to be seen, bearing S.S.E. ½ E. In this berth you have sufficient room, in case of driving, from whatever quarter the winds may happen to come, as you are quite sheltered, by the mountains, from those which blow with the greatest violence. If you should be obliged to make a long stay there, you may anchor a little farther in, till False Cape is entirely shut in by the east point of the bay. For mooring in Simon's Bay, bring Noah's Ark S.E. by S. [*S.E. by E. ½ E.*], the Roman Rocks E.S.E. ½ E. [*E. by N.*], and the Jetty S.W. by W. [*S.S.W. ½ W.*] in nine fathoms water.

You ought to moor your vessel in this road S.E. and N.W., with this particular caution, that, from the month of May to September, your stoutest ground-tackle should lie to the N.W., as the winds from that quarter blow the oftenest, and with the most violence; on the contrary, from September to May, you ought to lay it to the S.E., because the south-easterly winds are then prevailing. However, it is seldom that any vessel goes thither in the latter season, Table Bay being at that time much preferable.

Those who propose to put into Simon's Bay, in their return from the eastward, after having got sight of the coast, and doubled the False Cape, should steer either for the middle, or for the N.W. side of False Bay, to the southward of Simon's Bay. In order to gain a convenient anchorage, they ought to keep off the eastern side, where the shore is surrounded with reefs, only observing to follow the directions already given for avoiding the Trident Rock, &c.

So soon as they shall have made the entrance into Simon's Bay, whether by means of the White Sand Downs, already mentioned, or by a sight of Noah's Ark, they should follow the directions already pointed out for sailing to the best anchoring-place.

If any unforeseen circumstances should not permit those who desire to put into Simon's Bay, to make the land to eastward of the False Cape, and they should find

* Take care not to borrow too close on the N.W. side of the Roman Rocks, as a detached rock, of three or four fathoms, is said to lie on this side.

them-

themselves in the latitude from 35 degrees and a half to 36 degrees; so soon as they have lost the muddy bottom on the western part of the bank of Agulhas, they should make good their course N. by W. *true*, in order to get sight of the False Cape, or of the Cape of Good-Hope.

To sail out of Simon's Bay, follow quite the reverse of what has been directed for entering it. If bound to the eastward, leave Simon's Bay so soon as the north-westerly winds begin to blow: on the contrary, if you propose sailing to the westward, you must wait till the north-westerly winds are on their decline, and get under sail in the road so soon as those winds shift from W.N.W. to West; because, as they most commonly veer from thence successively to S.W., to South, and to S.E., they will prove fair for doubling the Cape of Good-Hope, and lying up afterwards to N.W.

From the month of October to the month of April, the south-easterly winds, which blow then most frequently, and with the greatest violence, never continue longer than five or six days together, and are constantly succeeded by variable winds. It happens frequently too in Simon's Bay, as well as in Table Bay, in both seasons, that these winds, after blowing very hard for a whole day, and part of the night, fall towards morning, and are succeeded by a land-breeze from W.N.W., by the help of which, such vessels as have got under sail at the very beginning of that breeze, may get out of Simon's Bay, and put to sea before the return of the south-easterly wind. At the worst, if they should be taken in such a position as not to be able to double the extreme point of the land, the most proper measure will be to re-enter the bay.

Ships may, either in entering or going out, pass to northward of the Roman Rocks, between the reef and the coast, keeping clear of the rock, which is said to be a little to the N.W. of the Roman Rocks, with three or four fathoms water on it. This passage, in which you will find from 9 to 10 fathoms, is twice as wide as that between these rocks and Noah's Ark.

THE SOUTHERN COAST, *from* FALSE BAY *to* ALGOA BAY.

[ALTHOUGH *this coast is not exhibited on our* New Chart, *we annex the following description for the accommodation of those who are employed in the navigation to Algoa Bay, &c., and to whom, we doubt not, it will prove an acceptable addition. A particular Chart of the Coast and Harbours is published by the Proprietor of this Work, and may readily be obtained.*]

CAPE AGULHAS, the southernmost point of the African continent, lies at the distance of about 29 leagues S.E. [*E.S.E.* ½ *E.*] from the Cape Point of Good-Hope, in latitude 34° 52′ S.*

Major Rennell has said, "In passing near Cape Agulhas, I observed that the Cape itself, as well as the land for many miles to the westward of it, is too low to be seen at more than six leagues from an Indiaman's poop; and that, about nine leagues *W.N.W. true*, from the cape, the land rises high enough to be seen at 9 or 10 leagues. Of course this high land is set for *Cape Agulhas*, by those who pass too far off to see the low land; as most do. Those who pass it from the westward, with a *scant* wind from the southward, and arrive in sight of land only in the evening, should be aware of this circumstance."

A more particular and recent description states the land of Agulhas to be even; having no high land within it for several miles, in any direction; but, to the *W.N.W. true*, at the distance of between three and four leagues from the cape, is a hill near the sea, which appears insulated, and is called, from its peculiar form, or appearance from the eastward, the *Gunner's Quoin*. This may be seen 9 or 10 leagues off. It is always to be recollected, that the low land of the coast projects much farther to the south than

* The cape was called by its first discoverers, the Portuguese, *Cabo das Agulhas*, (pronounced Agullias,) which means *Needles' Cape*. Lagullas or Lagullus is a corruption of the original name. It has been said that the cape extends to the southward of the parallel which is assigned to it in our Table, page 4, from three to five minutes; but, we have been assured, upon very respectable authority, that 34° 52′ is correct. Here the navigator will, of course, exercise his judgement.

any

any of the high land in the vicinity. The edge of the shore is uniformly rocky to a great distance, both eastward and westward of Cape Agulhas.

Eastward of Cape Agulhas the coast is variegated in its form, and all its bays are open to the S.E. Small vessels, from the cape, visit several of these bays, for the purpose of obtaining timber, but large ships are seldom seen here. The first of these bays, affording anchorage, is that of St. Sebastian, within Cape Infanta, about 15 leagues E. by N. [*N.E. ¼ E.*] from Cape Agulhas. It is open both to easterly and southerly winds. The water near the coast is generally deep. At the bottom of the bay is the Breede or Broad River, the entrance of which is half a league in breadth, but obstructed by a bar of sand, great part of which is nearly dry at low water. There is anchorage in the bay on the north side of Cape Infanta, off a fish-house on the sandy beach, where a ship may be occasionally sheltered from N.W and westerly winds. There is a fine sandy bottom in 6, 7, and 8, fathoms. Cape Infanta is of middling height, with sand-downs over it, which, at a distance, appear like corn-fields. A rock, which at times produces breakers, lies just within it on the north.*

In the concavity, called *Struy's Bay*, to the N.E. of Cape Agulhas, between this cape and St. Sebastian's Bay, the ship Arniston was lost, through an error in the reckoning, in the year 1815, when out of more than 300 persons only four or five survived. The particulars of this lamentable case are given in our Memoir on the Atlantic, 4th edition, page 243. The coast here is rocky and sterile.

Cape Vaccas lies 17 leagues E.S.E. ¼ E. [*E. ¼ N.*] from Cape Infanta. Within it are the small bays called Fish Bay and Flesh Bay. A reef projects from Cape Vaccas. At nearly seven leagues from Cape Vaccas, in latitude 34° 6′, is Cape St. Blas, the south point of Mossel Bay.

MOSSEL BAY.—This bay, to the N.E. of Cape St. Blas, is extensive, but open to the wind from south to east; and, with the wind blowing fresh from these points, a great swell rolls in. It is said that the S.E. gales here seldom blow more than 24 hours at a time, and generally moderate in the evening. Two brackish rivers, *Salt River* and *Brak River*, fall into the bay, but neither will admit a boat. Near the shore, brush-wood only is to be found; but a little way up the Brak River, on the north, is plenty of large timber. Beef and mutton may be procured of the farmers here at moderate prices, but vegetables and fruit are scarce. There is an islet, called Robben or Seal Island, near the shore on the west side of the bay, near which fish are plentiful, and oysters abound on the rocks about the cape. The water is convenient to the landing-place, and is, in general, easily gotten off. The landing-place is on a sandy beach, in a small bay, near a projection called Holder's Point. There is another small cove, at a quarter of a mile to the S.E. of this, where you may land when the sea is high. At the S.E. point of either of these spots a wharf or pier might be easily built; stone, timber, and limestone, being abundant in the neighbourhood.

Corn was formerly exported hence to the Cape, to the amount of 3000 sacks annually; but, the demand having ceased, the farmers have neglected to cultivate more than is required for the consumption of the surrounding country.†

There is no danger in approaching the bay, excepting a reef off Cape St. Blas, on which the sea generally breaks. This reef is not more than 3½ or 4 cables' length S.S.E. ¼ E. from the cape. There is a small channel, of 5 fathoms, between the shoal and cape, and steep-to on its off side. A western reddish bluff kept open of a craggy point that lies three-quarters of a mile to the westward of the cape, bearing W. by N. ¼ N., leads about one half or three quarters of a cable within the reef, in 16 or 18 fathoms; and, when you bring the Cape Bluff to bear W.N.W., you may haul directly into the bay, and choose your depth of water, the soundings being regular, with a sandy bottom.

The marks for anchoring are, Robben or Seal Island N.W. by W; the corn magazine, a long white stone building, S.W. by S.; and the outer point south. Here are 7½ fathoms, distant from shore seven-eighths of a mile. The tide flows, on the full and change, at 3h. 0m., and rises 6 feet. Variation 27° 54′ W. 1797.

KNYSNA RIVER.—The entrance of this river, a river distinguished for some of the finest land and forests in the country, lies about 13½ leagues E. ¼ S. [*E.N.E.*] from Cape

* A particular plan of this bay, and the entrance of Broad River, is given on the Chart of the Southern Coast of Africa.

† This description was written by Lieut. Rice, in 1797.

St. Blas, and 7 leagues N.W. [*W.N.W.* ½ *W.*] from Cape Delgado. The mouth of the river is less than one-quarter of a mile in breadth, and is formed by a high, steep, and rocky, coast on each side; near which are several detached rocks. From seaward it appears like the entrance of a large dock. Without the river is good anchoring ground, in 10 and 9 fathoms; a little within which, on the bar, are only 3 fathoms at low water, but deepening within to 4 and 5 fathoms.*

No ship should attempt to enter this place, unless she be in danger, and not able to keep off shore; but, should the attempt be made, and the ship strike, the lives of the crew may be saved, little or no wind being felt between the heads, while it may blow strongly without. There is, however, a chance of getting in safely, but it is necessary to have a boat ready, with a line to run out to the rocks, in order to steady the ship. The distance across the channel, in the narrows, is 60 or 70 fathoms, and there are no rocks but what are visible.

Within the river there is room for about thirty sail of ships. Should a vessel require to be hove down, this may be done by the beach, as the shore is steep.

Upon the whole, Knysna can be considered as fit only for the admission of small vessels, which may load wood with facility, and as a good place or dock for building. High water, at full and change, at 3h. 15m. rise, about 8 feet.

PLETTENBERG BAY.—Cape Delgado, the south point of this bay, is placed by Lieut. Rice in 34° 6′ 30″ S. and 23° 48′ E. It will be seen, by reference to page 4, that we place it more to the north and west. Which is correct must be determined by experience. Meat and fowls may be purchased here at a low price; vegetables are scarce, but fish may be caught in abundance near the cape and about a rock off the landing-place. This landing-place is on a sandy beach, near the Governor's store-houses, upon the western shore; at the south end of it is a brook of fresh water, the mouth of which is generally closed with a dry sandy bar. At both ends of the beach are projecting rocky points, and E.S.E. a cables' length from the south point are some rocks, dry at low water, which break off the sea. This bay is resorted to for timber, which is obtained from the vast forests up the country, and some of which is of very large dimensions. Whales are frequently seen here in July, August, and part of September.

Cape Delgado or Seal Cape, the south-west point of the bay, may be easily known by a remarkable gap in the land, about one mile to the westward, which, when you are a few leagues to the southward, gives the cape the appearance of an island. The only danger in approaching the bay is the Whale Reef, which is a circular shoal of rocks bearing S.E. by E. from the cape, and distance seven-eighths of a mile. The sea in general breaks very high over it, and there is a passage, three-quarters of a cable wide, between it and the cape, with 9 fathoms the least water. This channel should not be attempted, but in case of necessity, as there is generally a great swell; and, when it blows strong, the wind baffles when you are near the cape.

By giving the point a berth of one mile, you may pass safely to the southward, and round the east side of the Whale, which is steep, having 18 fathoms water not more than 30 or 40 fathoms from it; and, when you open the south end of the long sandy beach, with the high rocky point on the north side of Seal Hill, you are to the northward of the shoal, and, if the wind permits, may haul close into the bay. The wind from east, southward, to S.W., sets a heavy swell into the bay; but, the inhabitants say, it never blows strong from the S.E. to be of any continuance.

The common anchorage is S. by E. ¼ E. three-quarters of a mile from the Governor's store-houses, being convenient for ships to take in timber; you will be in 17 or 18 fathoms water; but, by bringing the Cape to bear S. by E. ¼ E. and the Gap S.W., you will be in 8¼ or 9 fathoms water, good ground, and more sheltered.

Wood may be cut near the landing-place. Watering is difficult, as you have to roll the casks near 300 yards over a heavy sand, and to raft them through a surf which frequently breaks high over the beach.

Tide flows, full and change, 3h. 10m., rises and falls 5 or 6 feet perpendicular; no stream or tide runs but in the morning: a strong current sets out of the bay, between the Cape and the Whale.

From Plettenberg Bay eastward, to Kromme River Bay, in a distance of 22 leagues, the coast next the sea is described as of a moderate height, and totally destitute

* See the particular plan on the Chart of the Southern Coast of Africa.

of

of any place of shelter. The depths, generally about 60 fathoms, at five leagues from shore. In the interior are several remarkable hills, which serve as marks and beacons for the coast; particularly the *Buffalo*, over Knysna; the *Five Paps*, to the north-westward of Plettenberg Bay; the *Peak*, *Haycock*, and *Table*, between Plettenberg and Kromme Bay; the three latter may be descried at the distance of 30 leagues, in clear weather. The whole are described in the Chart of Southern Africa, already noticed.

KROMME RIVER BAY.—This is the second bay within Cape St. Francis, which lies in latitude 34° 4′, and longitude 24° 56′. Bullocks and refreshments may be procured here. The bay abounds with fish, but is much exposed to southerly and easterly winds, and, the ground being generally rocky, it may be considered merely as a place of shelter, in case of necessity. The ship Countess of Sutherland was here, after losing her masts at sea, from the 18th of July to the 17th of August, 1801, and experienced, during this time, frequent land and sea-breezes, with strong winds, at times, from S.E. blowing into the bay, and rendering her situation very dangerous; the cables being much injured, and some of the anchors broken by the rocks. The best ground for a ship to moor in, appears to be a sandy spot of 7 fathoms, at a large mile from shore, with the easternmost land in sight E.S.E. ½ E. [*E. by N.*], and a round mount in one with the entrance of the river.

Kromme River is the only landing-place, and that not always practicable, the surf being heavy. The deepest water at any time on the bar is 7 or 8 feet. The vertical rise of spring-tides is 5 or 6 feet. In the river the water is brackish, but there is a spring on the southern shore at about a mile up. A boat should be anchored without the surf, and the casks hauled through by ropes, when filled; for, otherwise, the boat may be buried in the sand.

From Kromme River Bay to Cape Recife, the south point of Algoa Bay, the true direction of the coast, from point to point, is nearly East, and the distance 12 leagues. At some places between, the depths are from 50 to 60 fathoms, at two leagues from shore.

ALGOA BAY and the COAST EASTWARD.—The following description and directions are those given in the OFFICIAL REPORT on the RIVERS and COAST between CAPE RECIFE and the MOUTH of the KEISKAHAMA; with a particular description of PORT ELIZABETH, Algoa Bay; by Capt. FAIRFAX MORESBY, C. B *.

Cape Recife is situated in latitude 34° 2′ S.; longitude 25° 39′ E. of Greenwich. It is a low rocky point; the breakers extend one mile and a half into the sea. The coast from this point runs *N. 32° W. true*, four miles, to Beacon or Rocky Point; off this point lies a bed of rocks, but there is sufficient water for ships to pass within a small dangerous rock, over which the sea breaks in bad weather, lying with Beacon Point W. ¼ N. by compass, and Cape Recife S. ¼ W. This rock is a small pinnacle; we frequently tried to heave the lead upon the top, but never had less than 20 feet. Ships of large tonnage should therefore give Beacon Point a good berth, in approaching Port Elizabeth.

From Beacon or Rocky Point, to the landing-place at Markham's Cove, is N.W. by N. by compass, nearly three miles; sand-hills, covered with bush. Immediately over Markham's Cove, is Fort Frederick, which was the only land-mark by which a stranger was guided to the anchorage, and this from many positions is not easily dis-

* Some particulars in this description vary considerably from the representation in Lieut. Rice's Survey of the Bay, particularly in the distances. According to Lieut. Rice, the breakers off Cape Recife extend only three quarters of a mile off: the distance from Cape Recife to Beacon Point he makes only 3 miles; Beacon Point to the Landing-Place, only 2 miles; Landing-Place to Ferrara's River, 3 miles; Ferrara's River to Zwartkop's River, N.E. 2½ miles; Zwartkop's River to the Kuga, lat. 33° 49½′, 4½ miles, &c.

There is a sunken rock within Cape Recife, which is omitted both in Lieut. Rice's Survey and Captain Moresby's Description. It has only eight feet on its shoalest part, which lies with Cape Recife S.W. by S. two miles distant, and the block-house in the fort N.W., or on with a hill at a little distance in the country. The shoal extends about a cable's length from N.W. to S.E., and is about 20 fathoms in breadth. The barracks or buildings on the right of the fort open to the left of the hill, bearing N.W. ¼ W., lead clear of it.

A ship coming in from the westward ought not to bring Cape Recife to the southward of S.W. by W. till the black top on the highest sand-hill to the southward of Beacon River bears W.N.W.: and, in coming out, she ought not to bring the black top to the northward of W.N.W. till Cape Recife bears S.W. by W.—ED.

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tinguished; but Lady Donkin's Pyramid, lately erected, half a mile to the S.E. of Fort Frederick, now stands conspicuous to ships approaching the land.

From Markham's Cove to Ferrara's River is N. 13° E. by compass, nearly four miles; between this point and Beacon Point may be considered the anchorage of Port Elizabeth; the water deepens gradually from the shore; the bottom is hard sand, in which the anchors hold well. Where merchant-ships have generally anchored, the ground is not so clear as farther out, arising from numerous anchors that have been left:* but should Port Elizabeth ever become a place of commercial consequence, chain-moorings, or even anchors of a larger size, with chain-cables, should be laid down for those ships that wish to approach near the shore, for the purpose of loading or unloading. The expense would not be very great, and a small tax for such an accommodation would be cheerfully paid.

I do not make this remark from the insecurity of the bay; for I consider it at all times equal to Table Bay, and for six months very far its superior.

His Majesty's ship Menai lay off Port Elizabeth from the 29th of April, until the 25th of June, 1820: during that period, there were only two days we could not communicate with the shore; with a S.E. wind a swell rolled in, but never any high breaking sea. Ships have, from time to time, rode during the whole year in this bay, and some of his Majesty's ships have rode out the heaviest south-east gales that have been known.

Had I my choice of trusting my ship, for the year round, to Torbay, in England, Palermo Bay, in Sicily, Table Bay, or Algoa Bay, I should, without hesitation, prefer the anchorage off Port Elizabeth, Algoa Bay.

From the 1st of April to the 1st of September, the wind scarce ever blows from the south-east; and, calculating upon the average number of days that ships can communicate, and carry on their commercial occupations, Port Elizabeth infinitely surpasses Table Bay.

In proof of what I have said, not a single accident happened in landing the settlers from England, (who amounted to 1020 men, 607 women, and 2032 children,) from the period of their arrival, in the middle of April, to the day of our departure, the 25th of June. It is true, that two small coasters were wrecked last year, on the same day; but, if their loss is attributed to the right cause, it will be rather to their want of good tackle, than the force of wind; even from these vessels not a man perished.

No ship should anchor nearer the shore, until the bay is cleared of anchors, than 6¼ fathoms, unless they have chain-cables; thus, in considering Port Elizabeth a safe anchorage, it may naturally be looked forward to as a point to where the coasting trade of the colony can be carried to an extensive scale. Between Port Elizabeth and Table Bay, the anchorages are numerous; and there are few masters of coasting vessels in England, Holland, or France, who have not hourly more dangers to encounter, and more difficulties to surmount, than the trade from Port Elizabeth to Table Bay.

As the Export Port to the Isle of France, &c. Port Elizabeth is admirably situated; and, as a place for refreshment during the winter months, few seamen would risk their ships in Table Bay, or encounter the delay in beating up to Simon's Bay with a north-west wind, when Port Elizabeth affords much easier access, and articles of refreshment at a more moderate price.

The bay abounds in fish, and this will be soon one of its most important exports. Fresh water there is abundance of; at the expense of a few hundred rix-dollars, it might be carried to the beach in a stream, sufficiently strong to water any number of ships.

The thermometer, during our stay at Port Elizabeth, at noon, varied from 66° to 59°. The nights were cool, the morning air fresh and invigorating. High water, at full and change, 3 h. 40 m. Tide rises about six feet.

Ferrara's River is closed at the mouth by a bank of sand, except at spring tides, and is not worth notice; from hence to the mouth of the Zwartkops, is N.E. by E. ¼ E. two miles to the shore, sandy and flat. The surf rolls in much higher, with every sort of weather, than at Port Elizabeth.

The Zwartkops, in latitude 33° 51′ 24″ S., longitude 25° 34′ 45″ E., is a river of the first consequence, if Port Elizabeth should continue to flourish. From the accompanying

* We have been informed that the best mark for anchoring is, Summerfield Lodge, on the north side of Port Elizabeth, bearing West, about a mile, or a mile and a quarter, from shore. A gun is fired at the block-house, as a signal when to anchor.

survey

survey of it, the capacity of its water is evident; and, I have little doubt that, when commercial gain shall stimulate the merchant to enterprise, the Zwartkops will be found capable of admitting ships of considerable tonnage; in fact, there is now in the river the remains of a Dutch ship of 200 tons, and there were but few days when boats could not have come over the bar whilst we remained at Port Elizabeth. Ships may anchor off the Zwartkops to wait for tide; but I do not consider it so safe as the anchorage off Port Elizabeth.

From the Zwartkops to the Kuga River, situated in latitude 33° 48′ 36″ S., longitude 25° 37′ 33″ E., is five miles. The coast, sand hills, with a flat sandy beach. The mouth of this river is closed, and the water peculiarly salt, that flows into a small lake, from hence to the Sunday River is E. 4° 35′ S. nine miles. The mouth of this river is situated in latitude 33° 43′ 6″ S., longitude 25° 15′ 38″ E. of Greenwich. Between this point and Cape Recife may be denominated Algoa Bay.

The Sunday River runs into the sea close to a remarkable rock, which I have denominated Read's Monument, in remembrance of a fine youth, a midshipman of the *Mæai*, who perished, with three seamen, in the execution of their duty, whilst surveying the coast.

On its northern side, the bed of this river is deep, but the surf beats with violence over the bar across its mouth; and, as here the coast is exposed to the constant rolling swell, little chance of its ever being useful to commercial purposes offer. There are times when boats can enter or leave Sunday River; but from its mouth commences that wild inhospitable coast, that refuses shelter to any class of shipping.

The Island of St. Croix, in latitude 33° 47′ 30″ S., longitude 25° 41′ 7″ E., lies S. 57° 50′ E. from the mouth of the Kuga, three and a half miles; and S. 71° 10′ W. from the mouth of the Sunday, six miles; it is about two and a quarter in circumference. Another small rocky island, which I have called Brenton's Isle, lies S. 46° W. of St. Croix, one and an eighth mile distant, and about three-quarters of a mile in circumference. Off the mouth of the Kuga, south, two-thirds of a mile, is the island of Jahleel, about the same size as Brenton's Isle. Round these islands there is good anchorage; and, in the event of necessity, a ship might find partial shelter near St. Croix.* These islands are inhabited by immense numbers of seals, which, at times, literally cover their surface.

The coast, from the mouth of the Sunday's River, runs to the eastward, towards the Bosjesman's River. The mouth of this river I did not examine; from reports I received, it did not appear to merit attention.

From the Bosjesman's River, the coast continues the sameness of appearance, sand-hills covered with bush.

The Bird Islands are alone visible along the whole line of coast.

The mouths of the Karega and Kasowka were nearly closed, a weak stream alone running over a bed of light sand. The winter torrents, no doubt, will at times fill the beds of these rivers to a great extent. Further eastward is the Kowie, a river that promises fairer than any I have visited, (except the Zwartkops,) at some future time, to admit ships over its bar. Like all the other rivers I have visited, it receives its inland stream into an extensive sandy basin, from which it forces its way through a narrow channel on its eastern side, into the sea, not wider, at low water, than twenty yards; this stream runs in a S.S.E. direction; the surf broke across a bar about a quarter of a mile from the entrance, but not violent, and at a low tide there must have been several feet of water. What leads me to expect more from this river than the others I have visited, is, that the water appears deep close to the shore, and there are two extensive beds of rocks, which bore by compass, S.E. by S. from the river's mouth, about two and a half miles. If there is anchorage under these rocks, ships might perhaps be able to wait the convenience of tide, before they attempted to enter the river.

The next appearance of a river to the eastward, is the Kleine Monden, which has, apparently, at times, three outlets to the sea; but they were all closed when I saw them, and, I suspect, are only open at spring tides, or when the mountain waters come down.

From the Kowie to the Great Fish River's mouth, the coast has a more verdant appearance, the sand-hills are covered with luxuriant bush; but there is not an inlet or curve of any sort, that offers shelter for ships. The surf rolls in high breakers along the coast.

* We have been informed, by an intelligent officer, Mr. R. B. Sheares, that there is good anchorage, if not the best in the Bay, on the N.W. side of Saddle Island, the largest of the St. Croix's. On the outside of these islands, to the S.E., the ground is mostly foul.

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The country, at the mouth of the Fish River, is open, interspersed with picturesque ravines, generally clothed with bush: when I arrived, the water was at the lowest ebb; from the S.W. side a sand-bank projects to within twenty yards of the N.E. side; the current was running through this channel slowly into the sea, and I could trace its stream gradually decreasing in breadth, until finished in a point, making the mouth of the river form the base of an equilateral triangle; from this point, part of the ebb is thrown back on the flat beach, runs to the westward, and finds an outlet close to the rocks, on the western side; at this spot the water appears deep. At the breadth of ten yards, the sea did not break successively; but, at times, there was an interval of five minutes, when a boat could easily have landed; but when it did break, it was with treble the violence of the constant rolling surf along the sand before the river's mouth. The entrance of the river E.S.E. and W.N.W. The stream inclines a little to the S.W., after passing the extreme point, where the sea broke with violence across.

The position of the Fish River may be easily ascertained at sea, in a fine day, by some distant hills, of an undulating form, bearing N.N.W. per compass; these hills are then between the ravines through which the river flows.

The Great Fish River, at particular seasons, swells to a considerable height; at these times, from the violence of the current, no ship or vessel could possibly enter; but when the causes have ceased that filled its bed, the river becomes a mere stream, and, for several months in the year, I much doubt whether the strength of the water would turn a mill. I think the water is sufficiently deep to admit ships to anchor off the river's mouth. As the tide rose the surf increased; but at dead low water there must have been several feet on the bar. Not the least appearance of shifting sand, or rocks, were observed amongst the breakers. The land, on the western bank of the Fish River, near its mouth, is most beautiful, being a rich black earth, with a covering of luxuriant pasture.

I crossed this river at the first ford from the sea, about six miles inland; here the stream meanders through a deep and bushy ravine. We led our horses down on Friday the 12th of May, and were near an hour in descending. When we reached the bank, the tide had not sufficiently receded to admit our crossing; in an hour it was effected, and when the tide was perfectly out, there was but a very small fresh water stream.

From hence to the Becca, we continued in an E.S.E. direction; we crossed this river at a ford where the tide reaches at springs, there was scarcely any water in its bed. From this ford to the mouth of the Becca, is about six miles. I remained here to witness the effect that the ebb and flow of the tide had on the bar. The stream runs S.W. into the sea; is not more at low water than 12 or 14 fathoms across, but deep. This river bids fair to admit coasting vessels, from the following causes:

The water, clear of the river's mouth, appears deeper; the mouth is so narrow, and the river so confined, that the tide is more rapid than at the Keiskahama, or the Fish River; the breakers are not more than would be expected at a depth of eight or ten feet, and resembled what is generally seen of rivers' mouths that are known to be navigable; the coast, however, is still as inhospitable as what I have hitherto seen. From the mouth of the Becca to the Keiskahama is about fifteen miles, in an E.S.E. direction; there are several small streams, up which the sea flows five or six miles at spring tides; but the sea rolls in high breakers along the coast.

The first view of the Keiskahama is the most flattering to those who visit it for the purpose I did, viz. "*to ascertain whether it was open at the mouth for the purpose of commerce.*" An extensive basin of water receives the inland stream; the extreme points between which the Keiskahama flows, when its bed is full, bear from each other N.E. by E. and S.W. by W. about one mile distant; but this bed can only be full when the mountain torrents are the cause. It was nearly high water when I visited it; the mouth of the river then about seventy or eighty yards across, the stream running South into the sea, strong and deep. Part of it is forced back along the shore, similar to the Fish River, but the greater part runs close along the low rocky shore, forming the N.E. point; its breakers were here, evidently, not so successive, and I do not despair of there being a channel, at high tides, for small vessels; but the wildness of the coast, with the flat that reaches a mile and a half or two miles seaward, blight the hope that this river can ever be constantly open to the most enterprising trader. It is not at present, nor, calculating upon probabilities, can ever be, the resort of King's ships; the tides are too feeble, and of too little elevation, to serve any great purpose; about seven or eight feet was the highest I could decide, by the marks on the shore, that the tides rose. I remained until low water; the river did not then exceed forty yards in breadth. The ravine through which the Keiskahama serpentines, runs in a N.W. and S.E. direction. The entrance

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may be known at sea, in clear weather, by a range of mountains in the interior; one standing by itself, rising in a conical shape, flattened at the top; and a short distance to the eastward, another high mountain, forming three distinct elevations and falls; when these mountains bear N.N.W. they are on with the Keiskahama. The N.E. point of land, close to which the river flows into the sea, is low and rocky, running from a remarkable little green hillock, detached from the one where the bank begins to rise; the S.W. point is a sandy hillock. Along the coast, the sand is covered with bush, through which, at different places, it is visible.

Having given an account of the rivers between Cape Recife and the Keiskahama, I shall close with this general observation:—That, from the straightness of the coast, few ships will ever venture to approach them; that, although they are generally called rivers, they are mere streamlets, when not filled by mountain torrents, or heavy rains: It is true, that the Fish and Keiskahama Rivers, close to their mouths, appear magnificent sheets of water; but as I crossed the Fish River six or seven miles from its entrance, almost dry footed; the Becca, without wetting my shoes; and, as I am told, the Keiskahama has a ford at an equally short distance from its mouth, they are, in themselves, but streamlets: the tide does not rise sufficiently high to make them, what are called in England, tide-harbours.

If, therefore, trade is ever carried on, it is my opinion that by Port Elizabeth, or the Zwartkops alone, it can be effected with security.

We have, from time to time, heard of many lamentable shipwrecks between Cape Agulhas and the Keiskahama;—no doubt, the greater part of these would have been avoided, had a light warned the mariner of his danger. The expense of erecting a light-house on Cape Recife and another on Cape Agulhas would not be very great, and the expense of lighting them very trivial. How willingly every navigator to and from India would contribute to the expense of these buildings is well known; and, if but one ship had been preserved by such a beacon, that has buried her crew and cargo on the sandy shores of Africa, it would pay for years, (if money alone is to be considered, and not the life of man,) the expense of a light-house.

Cape of Good Hope, (Signed,)
7th July, 1820. FAIRFAX MORESBY, Captain of H.M. Ship *Menai.*

Additional Remarks on Algoa Bay, &c.—In the evening of the 11th March, 1814, H. M. ship Stag, with stores from Simon's Bay, arrived in Algoa Bay, after a tedious passage, having been opposed by a continuance of strong easterly winds, with a lee current. For two days the surf rendered it impossible to land the stores, and the ship then proceeded to the Bird Islands, between which and the main she anchored on the 15th, running in by the western passage, which was previously sounded by the boats. The Stag again reached Algoa Bay on the 17th of March, and was detained there, from the difficulty of landing through the surf, until the morning of the 22d, the day on which she departed.

BIRD ISLANDS.—It appears, from the report of the officers of the Stag, that the anchorage within the Bird Islands may afford occasional shelter to a vessel in distress. These islands, three in number, are connected by reefs of rocks, the whole group extending from three to four miles S.E. and N.W. by compass. They afford shelter from winds from S.W. to S.E. by S., but the anchorage may be said to be open to all winds from N.W. to S.W., and from S.E. by S. to E. by S. As the eastern passage is equally clear with the western, a ship may readily put to sea from this place, with any wind, in the darkest night, without risk; for, even with the wind at south, she could clear the land on one tack or the other.

The islands are full five miles from the shore, the deepest water within them is 22 fathoms; the shallowest 9, with a bottom of hard sand, small stones, and in places pieces of coral rock. No dangers were seen but what appeared above water. Landing on the main hereabout seemed impossible, the surf being higher than in Algoa Bay. The eastern passage is clear and open, though the soundings are more irregular than in the west. The Bird Islands abound with seals.

Algoa Bay, according to the observations made in the Stag, lies in longitude 25° 39′ 45″, agreeing with Lieut. Rice's survey. The Bird Islands, according to the same observations, lie in 33° 48′ S., and 26° 20′ E.

2.—The CAPE BANK, or BANK of AGULHAS, with its CURRENT, &c.

Cape Agulhas has been described, in the preceding section, (p. 128,) and to that description is annexed a caution requisite to be attended to when approaching it. The same precaution is to be observed when advancing towards False Bay and the Cape. Those from the eastward must take care, in the summer months, when the S.E. winds prevail, not to fall to leeward; for it will be very difficult to gain False Bay, if a ship first makes the Cape land when to the westward of it, during a strong S.E. wind. At times, ships, with stores from India, and bound into Table Bay, have been obliged to bear away for St. Helena, in consequence of passing the Cape in the night, and being unable to beat against a strong easterly wind, and leeward current.

The vicinity of the Cape is notorious as the boundary of very different kinds of weather. To the eastward of it ships, homeward bound, have, in general, unsettled cloudy weather with variable winds; but so soon as they have gotten to the westward of the promontory, the weather commonly becomes favourable, with a steady south-easterly wind: this may be expected, more particularly, in the summer season.

All that part of Africa, of which Cape Agulhas is the southernmost point, is surrounded by a bank of soundings, which, after the Cape's name, is called the Bank of Agulhas: this bank begins at 32½° of South latitude, near the coast, and continually increases its breadth to the south-westward, till it exceeds 45 leagues; then, extending to the north-westward, it contracts progressively to the Cape of Good Hope, and finally terminates near St. Martin's Point. The soundings on the bank, both as to depth and quality, have been of great service to navigators, who have remarked, in general, that, to the westward of Cape Agulhas the bottom is *muddy*, and to the eastward it is of *sand*. The small shells, like the husks of oatmeal, being also as peculiar to the eastern side, as the mud to the western side of the bank. The quality of the bottom, on the South of 35° 15′ (in sight of Cape Agulhas) is classed by some in three divisions, *viz.* mud, on the West; fine sand, mixed with various substances, in the Middle; and coarse sand, mixed with coral and stones, on the East. The soundings on the north of 35° 15′ are generally very inconclusive, even with the help of the latitude: you always meet in those parts with the sea-fowls called gannets, or Soland geese, which are about the size of a common goose, quite white, with the extremity of the wings tipped with black, and whose flight is but short, greatly resembling that of a duck or pigeon; you may also commonly perceive seals swimming on the water; and these, with the change in the colour of the sea, are sure tokens that you are upon the bank.*

The CAPE CURRENT.—The *Setting of the Current*, on and off the bank, has been for a long time a subject not fully understood, and many have asserted that, at different times, this current did set in contrary directions, in the very same place. Major *Rennell* is the first who, in 1777, explained it in a manner equally ingenious and satisfactory. "It must be observed," says that gentleman, "that the main stream of the current conforms to the direction of the edges of the bank, and not the shore, as is, I believe, generally imagined; and that, before it reaches the great bank, it takes a wide circuit round by the South to the N.N.W. between the point of Natal and Mossel Bay. This winding course of the current, which produces errors of southing and northing alternately in the reckoning, together with the incertitude of the ship's position, has undoubtedly occasioned the above-mentioned mistake.

"It is universally allowed that the current runs strongest during the winter months, and all the journals that I have seen confirm this opinion. It is, no doubt, influenced in some degree, by the wind, and other causes, at all seasons; and the width of the stream may possibly bear a proportion to its velocity. It appears to be from 40 to 50 leagues wide; the widest part being opposite to the river Infanta;† and the narrowest on the S.W. side of the bank. On the East side of the bank, and about 50 leagues from Cape Agulhas, where the current again takes a southwardly course, the outer verge of the stream runs into 39° South latitude, before it turns to the northward: after which it

* See the last edition of the Chart of Southern Africa.

† Called Groote Vis River, or Great Fish River, by the Dutch settlers.

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continues its progress, though slowly, along the Western Coast of Africa, and probably beyond the Line. It is felt in latitude 26° in the track from the Cape to St. Helena.

"There appears to be a slow counter-current setting to South or S.E. about 40 leagues to the westward of the Bank.

"There is certainly no considerable current, if any, a few leagues within the verge of the Bank; a small drain excepted, and that too near the land to be profited by, during the winter season. This stream appears to follow the direction of the coast as far as Cape Agulhas, where the form of the shore throws it across the Bank in a S.S.W. and S.W. direction, until it joins the main stream. Ships are carried some miles to the southward, while they are crossing the stream, which, however, cannot be many miles in width.

"During the winter months," continues Major Rennell, "when the westerly winds are so common, the passage round the Cape will be the most speedily effected by keeping the ship in the stream of the current, and letting her drive round the Bank. I am aware that most commanders prefer keeping on the Bank, for the purpose of getting soundings, and in expectation of smoother water, and a stronger current than is to be met with farther out; with respect to the latter, which is undoubtedly the prime object, they are disappointed, as they find a help of about four or five miles per day only between Cape Delgado and Cape Agulhas. All the journals that I have examined, tend to establish this fact, of which I had ocular proof during five days that I was on the Bank.

"I am indebted to Captain Waghorn, late of the Ashburnham, for the first hint I received concerning the course of the current round the Bank. He went round it in the Liverpool frigate in 1764, and in five days had a help of about 160 miles between the meridians of Cape Delgado and False Bay. The alternation of the current from S.W. to N.W. in latitude 37° was so sudden, that it marked the exact time when the ship doubled the point of the Bank."

EXEMPLIFICATION.—On the 18th of May, 1815, H. M. sloop Victor, Captain Basil Hall, from India, made the land near the River Keiskahama, in longitude 28°, and pursued a course, impeded by westerly gales, over the Bank. On the 26th, the ship had advanced to beyond 38° S. in 20° 10′ E. and had the Quoin of Agulhas in sight on the 29th, being then on her way to False Bay. During this period she was set by the current 186 miles to the westward, and 72 miles to the eastward, making an aggregate of 114 miles, or 2° 18′ of westing, in longitude, more than the dead-reckoning.*

Examples on the set of the current given by Captain Horsburgh.

The ANNA, from Bombay, 1801; 20th July, began to experience the westerly current in 30½° S. and 37° E.; it set West, 38 miles; on the 29th, it set West, 35 miles; 30th, it set W. 16° S. 48 miles; 31st, W. 12° S. 77 miles; lat. at noon, 32¼° S., long. 31° 40′ E. During this time the winds were light at S.E. and eastward.

1st August; current checked by a strong gale, veering from N.E. to N.W. and W.S.W. August 2 and 3, current, each day, 30 miles to the westward; 3d, land near Cape Recife in sight, hence winds variable, with two gales from the westward, until the ship, on the 13th, had advanced beyond the peninsula of Good-Hope, during which time the current had generally set westward, 15 or 20 miles daily; and, on one day, 45 miles.

During the westerly gales, the current was completely checked; and, by the force of these gales, it sometimes set *eastward*.

The ANNA, from China, April, 1799: In the stream of the current 21st April. Latitude at noon of the preceding day, 35° 11′, long. 27° 59′: no current then perceptible. On the 21st, lat. 35° 3′, long. 26° 52′, the current had set W. 32° S. 27 miles. On the 22d, W. 19° S. 52 miles; 22d, at noon, lat. 35° 13′, long. 25° 5′, light winds from the westward. On the 23d, at noon, lat. 35° 56′, long. 22° 51′, the current had set W. 36° S. 87 miles, being more than 3½ miles in the hour. The ship greatly agitated by the strength of the current; the sea rising in confused heaps, although with a moderate breeze from W.N.W.

April 24th, at noon, lat. 35° 30′, long. 18° 58′, current had set W. 19° S. 32 miles: 25th, at noon, abreast of False Cape, no westerly current, but a set of nine miles northward.

ARNISTON and fleet, May, 1805. On the 28th, at noon, lat. 30° 57′ S. long. 31° E. Land in sight until 5 *p. m.* on the 29th. On the 29th, at noon, lat. 32° 25′ long. 30° 0′,

* See our Memoir on the Atlantic, 4th edition, page 244.

the current had set S. 38° W. 88 miles in the twenty-four hours. On the 30th, lat. 34° 14′, long. 27° 46′, current, W. 14° S. 44 miles. On the 31st, lat. 34° 21′, long. 26° 36′, current W. 22° S. 65 miles.

1st June, lat. 34° 53′, long. 25° 15′, current W. 16° S. 66 miles. 2d June, lat. 36° 12′, long. 22° 36′, current S. 40° W. 74 miles. 3d June, lat. 36° 23′, long. 21° 42′, current S. 35° W. 27 miles. More to the westward, the current was imperceptible.

Northampton, December, 1802, at 9 *a. m.* on the 23d, the coast of Africa bore north, about 25 leagues. At noon the ship was in lat. 35° S. long 24° 54′ Dec. 24, at noon, lat. 36° 33′, long. 21° 53′, a very confused swell, which makes the ship uneasy. Found that, during the twenty-four hours, a current had set W. 20° S. 139 miles, equal to 5¾ miles in an hour. This is considered as an extraordinary example, and the velocity is attributed to the effect of constant gales from the westward, which had previously prevailed, and which had prevented the progress of ships until the 20th of December, or thereabout, when they abated, having in the mean time *kept back the current*, which afterwards set with a proportional and increased velocity.*

Upon the whole it appears, from experience, that the current on the coast of Natal sets along shore to the south-westward till it unites with the Oceanic Stream on the edge of Cape Bank, in the longitude of 27½° or 28° E., eastward of Algoa Bay. After this junction, on the meridian of Cape Recife, its direction coincides with the outline of the bank, about W. by S., and continues thus to longitude 23½°, or thereabout, diverging a little more or less either to southward or westward; but seldom or never setting W.N.W. and W. by N., as it has been sometimes represented. In longitude 23½°, adds Capt. Horsburgh, the edge of the Bank has a south-westerly direction, and next *S.S.W. ½ W.*, true, nearly to its southern extremity. Here, also, the current follows its concave outline, taking a south-westerly course, in longitude 24°; and, from long. 23°, it generally sets about S.W. by S. to the southern extremity of the Bank, in 21½° or 22° E. The velocity is greatest between 25° and 22°, along that part of the Bank which takes the most southerly direction. At the southern extremity of the Bank it seldom runs strongly beyond the parallel of 36½°, or to the westward of the meridian of 21° E. From hence a part seems to set weakly to the westward, and is gradually lost in the ocean; but the strongest part follows the convex extremity of the bank, and continues to set along the western edge of it to the *north-westward*, directly towards the Cape of Good-Hope. This north-westerly current seldom exceeds half the velocity of that setting to the south-westward, on the other side of the Bank.

An eddy current has also been described as setting from the shore of Cape Agulhas to the southward, the general course of which has not been clearly defined.

The EASTERLY or COUNTER-CURRENT of Agulhas.—This current seems to be a branch of the Cape current, which, opposed by the swell from the south-westward, winds from the south-western edge of the Bank, and thence sets to the eastward. It has frequently been experienced between the parallels of 36½ to 40° S., and between the meridians of 26° and 30°. Its limits are not known, but it probably extends in a southerly direction, to 24° E., and is said to have been found, in its easterly course, within 20 leagues of the Bank.

Captain Horsburgh says, in reference to this current, "In February, 1798, we kept mostly in 40° and 41° S. from the meridian of Cape Agulhas to the meridian of the S.W. part of Madagascar; and had, in general, a daily set of from 20 to 30 miles eastward; and, at two different times, 60 miles in 24 hours. From the meridian of Cape Agulhas to the meridian of Cape St. Mary, we had four degrees of easterly current in ten days, with variable winds from every quarter, but strongest from the westward."

In 1800, Nov. 28. The ship Sir Edward Hughes, at noon, in lat. 39½°, on the next noon in 38½°, long. 26°. The current in the interval had set E.N.E. ½ E. 54 miles.

In 1792, July, the ship Thetis, in 24 hours, set, by the current, 38 miles to the eastward; lat. 36½° long. 28½°. In her two preceding voyages a similar current to the eastward had, in this part, been found. The sea always much agitated.

The Anna, in 1799, from the 17th to the 20th of April, had a strong current to the S.E. in lat. 36°, long. 27° and 28°. No set to the westward was perceptible until in 35° S. near the verge of soundings.

* In the North-American sea, northerly or adverse winds have a similar effect on the Florida Stream. See 'Memoir on the Atlantic,' 4th edition, page 96.

TRACKS, WINDS, *and* WEATHER, OVER *the* BANK *of* AGULHAS.

AFTER you have made the Cape of Good-Hope, or after you have gained soundings on the Bank, if you keep between the parallels 36 and 38 degrees of latitude, it will be high enough for your meeting with favourable winds. The westerly winds are more certain in a very high latitude than in a lower one; for, in the high latitude, the wind is very seldom from the North and N.E.; and, during the months of June, July, and August, scarcely continues thus for twelve or fourteen hours. When the wind then at any time veers from E.S.E. to N.E., you may expect it in a few hours at N.W. In all other months westerly winds here are more frequent than nearer shore.

The winds from N.W. to W.S.W. are those which occasion the highest seas to the eastward as well as to the westward of the Cape; though they do not blow with their greatest force but during the months of June, July, and August; yet it sometimes happens that, in April or May, you meet with very violent squalls from that quarter. These are generally foreseen by black clouds, which darken the horizon from N.W. to West; and, so soon as you see these tokens, you must prepare yourself; for they come on rapidly, and are sometimes accompanied with whirlwinds. They begin to blow violently from W.N.W. to West; then shifting to the S.W. they get to the South, when they abate, and it falls calm all on a sudden; but the sea, which they have agitated and swelled into mountains, is not so soon composed, and this, frequently, is of worse consequence than the gale itself.

About 150 leagues to the eastward of the Cape, these storms are very frequent; the atmosphere is almost always on fire with lightning and thunder, followed by deluges of rain, so that you can scarcely ever enjoy two fair days together. The weather is thus tempestuous to the distance of 300 leagues farther; and several navigators have remarked that it continues quite to that meridian which passes through the eastern parts of Madagascar.

The preceding description is from the "*Oriental Navigator;*" the following from Captain *Horsburgh.*

"From September to April, which is the summer season, the S.E. winds are said to predominate in the vicinity of the Cape of Good-Hope, and N.W. and Westerly winds from April to October, which is the winter or stormy season. But it must be observed, that the S.E. winds are more constant on and near the Bank of Agulhas, during part of January, the whole of February and March, than at any other time of the year. In April, also, they are expected, though in this month short gales from the westward frequently happen. In May, the winds between N.W. and S.W. prevail more than the S.E. and Easterly winds, sometimes blowing in hard gales along the edge of the Bank. In June, these westerly and N.W. winds set in strong: during this month, July and August, they blow with the greatest force, producing very high seas, and were it not for the help of the westerly current setting along the edge of the Bank, ships would find it very difficult to get round the Cape in these months. All ships from India, which, on their passage to Europe, reach the eastern part of the Cape Bank from April to September, should be in good condition, if possible, and well prepared to resist bad weather; for they will be liable to encounter storms from W.N.W. to W.S.W., which may continue two or three days at a time, with short intervals of easterly and variable winds. Many ships, by not being in condition to resist these gales, have sprung leaks, and were obliged to bear away for St. Augustine's Bay, in Madagascar, to repair their damages: some ships have perished in these gales; some have anchored in the bays to the eastward of the Cape in great distress; and others reached Simon's Bay with much difficulty, where they repaired their damages, and refreshed their crews, worn out with fatigue.

"In August, the westerly winds blow not so constant as in June and July, although very hard gales of short duration may be expected. On the 4th of August, 1801, we were in the Anna, near the eastern part of the Bank abreast of Algoa Bay, and got round the Cape of Good-Hope on the 14th, having encountered a very severe storm of two days continuance, from W.N.W. and West, in longitude 24° East. Westerly winds are also frequent in September, October, and November; and, even in December, ships have been beating round the Bank against westerly winds during the whole month, before doubling the Cape. They had sometimes very severe sudden squalls; but, in general

general, westerly gales are of short duration in this season, although they may blow very strong.

"Notwithstanding what has been mentioned above relative to winds, it sometimes happens, that ships get easily round the Cape Bank to the westward in every month of the year: many have been known to get round in May, June, July, and August, more speedily than others in November and December; for the winds are often different in one season from what they are in another, even in the same month.

"Around the Cape Bank, as in the open sea far to the S.W., S.E. and southward of the Cape, the winds, in changing, follow the course of the sun, seldom veering from north to eastward, &c.; but mostly from N.W. to West, S.W., and southward. After blowing strong, from N.W. or West, if the wind should veer to S.W. and southward, it becomes light, or is succeeded by a calm. If a light breeze continues, it veers to south-eastward, where it may keep fixed for a considerable time, but not above a day most probably, if it is the winter season. From S.E. it veers to East and N.E., then to N.E. and North. In the vicinity of the Bank, the N.E. and northerly winds are very transitory; but in lat. 39° and 41° S. from the meridian of Cape Agulhas to 45° or 50° East long. the N.N.easterly winds frequently are experienced in both seasons, and sometimes blow steady for a day or two at a time.

"There are sometimes N.W. or westerly gales near and upon the Cape Bank, which blow very hard with a clear sky, but those most to be dreaded are generally preceded by heavy black clouds rising from the N.W. and westward, with sometimes lightning issuing from them, or a noise of distant thunder; shortly after, the gale may be expected to commence by sudden gusts, or whirlwinds from the heavy dense clouds; and sometimes heavy showers of hail.

"When the wind at S.E. or E.S.E. shifted to north-eastward, the Dutch commanders were directed by the Company to take in the mainsail. If lightning appeared in the N.W. quarter, they were to wear and shorten sail; for in the first case they expected a hard gale at N.W.; and, if lightning was seen in that direction, they thought the gale would commence in a sudden shift, or whirlwind, which might be fatal, if they were taken aback.

"I have found the marine barometer of great utility in anticipating the storms near the Cape Bank, by a considerable fall of the mercury. A careful attention to this instrument, combined with the knowledge every navigator ought to obtain by observing the appearance of the atmosphere, and surface of the sea, or celestial orbs, will be sufficient to warn him of the approach of the storms. Although a fall of the mercury generally precedes a *gale* of *wind* in these latitudes, it is seldom disturbed by hard squalls of *short duration*.

"In the vicinity of the Cape Bank, and in most parts of the southern hemisphere, the mercury *rises* with *southerly*, and *falls* with *northerly*, winds; these, proceeding from a warmer atmosphere, are more rarefied, consequently the mercury falls in the barometer; whereas southerly winds, coming from the frozen regions near the pole, are more dense, and cause the mercury to rise. This ought to be kept in remembrance; for I have several times, when the wind was from S.E., observed the mercury to fall considerably before it changed to the northward, and expected a gale, but the fall resulted only from the warmer air coming in contact with, and repelling, the former.

"From the Cape Bank to the meridian of the south end of Madagascar, hard gales of wind happen in the winter season, accompanied with lightning, thunder, and much rain, which sometimes prove very dangerous to ships, particularly near the land.

"The Britannia and Bombay Castle, homeward bound, at different seasons, were struck by lightning off the Cape; the latter ship was near the land at Algoa Bay, in company with a fleet. These ships had each her foremast set on fire by the lightning, which penetrated from the head to the centre, bursting out in that part, and could not be got under: the Britannia was laying to, at the time, in a storm. Both ships were fortunately saved by cutting away their foremasts, which fell clear of them in a body of fire.

"In the storms off the Cape Bank, and to the eastward, the sea is turbulent, and they are generally accompanied with a black overcast sky. When they are about to commence, and during their continuance, numbers of albatroses, peterels, and other oceanic birds, are seen flying about; although, in moderate weather, few are perceived, for at this time they rest on the surface of the sea to fish, which they cannot do in a storm."

3.—CAPE *of* GOOD-HOPE *to* ENGLAND.

THE General Directions given to ships, on leaving the Cape for England, are as follow:—

Having rounded the Cape, a direct course for St. Helena is nearly N.N.W. ¼ W. by compass, [*N.W.* ¼ *W.*] 566 leagues: but prudence requires a course at first N.W. by N. until such a distance from the land is gained, as to obviate all risk from squalls at N.W. and W.N.W., which, at times, are experienced near the coast. A direct course N.N.W. will then be fair for the island.

With a strong wind, veering to the E.S.E., allowance for a leeward current should be made; particularly in cloudy weather, and when the longitude is uncertain. In this case, make the latitude of the island several leagues to the eastward of it. Then proceed to haul around the N.E. or Sugar-loaf Point, for the anchorage, as shown in the Note 8, page 24.*

On quitting St. Helena, a direct course for Ascension may be taken. This is N.W. by N. by compass, [*N.W.* ¼ *W.*] In this part a steady S.E. trade generally prevails throughout the year, and sometimes a westerly current. Ascension may be passed on either side, but the more common practice is to pass it on the west, at from 3 or 4 to 10 or 12 leagues.

From Ascension steer N.N.W. or N. by W. ¼ W. so as to cross the equator between the meridians of 18 and 25 degrees, and thence proceed as shown in our Book for the Atlantic, 4th edition, page 117.

EXTRACTS *from* JOURNALS *of the Ships* THAMES, SIR ANDREW HAMMOND, *and* LEDA, *on their respective* PASSAGES *from the* CAPE BANK *to* LONDON. *Selected with a view to elucidate a knowledge of the Currents, Winds, &c.*

THAMES, Capt. ABR. BRISTOW, August, 1813. "August 17th, *a.m.* strong gales westerly, lat. at noon, 33° 33′ S., long. 29° 48′ E. *p.m.* thunder, lightning, and squalls.

I'm quite elated when the wind is free,
But, thus contrary, it spoils all my glee.

18*th August*, lat. 33° 46′ S., long. 28° 48′ E., strong gales, westerly, unsettled.—19*th*, 34° 50′ S., 25° 40′ E., light winds, southerly, high swell from westward; current S.W. or S.W. ¼ W. full 1½ knot an hour.—20*th*, 36° 6′ S., 22° 15′ E., breeze from eastward. —21*st*, 36° 55′ S., 19° 45′ E., winds fresh in the N.E.—22*d*, 37° 18′ S., 19° 37′ E.,

* *Barn Ledge*, on the N.E. side of the island, represented in the particular plan on the Chart, is from one half to three quarters of a mile from Barn Point. It is about one cable and a half in circuit, has generally a heavy ground-swell upon it, with from 12 to 6 fathoms, and several pointed rocks of 25, 21, and 20, feet. From the Ledge, Barn Point bears N.W. ¼ N. about three quarters of a mile; Turk's Cap in one with Turk's Cap Battery, about three quarters of a mile. Large ships coming from the S.E. should keep George's Island open with Saddle Point until Sugar-loaf Point is open with Barn Point. This leads clear of the Barn Ledge, between which and the shore are 24 and 20 fathoms, in a channel more than a quarter of a mile wide. Close to the Ledge, on the outside, are 32 and 34 fathoms.

There is, also, a ledge off the South Point of St. Helena, at rather more than a mile. This is the *Speery Ledge*, a reef, two cables' length in circuit, with depths of 16 to 10 fathoms, and pointed rocks of 24 to 18 feet. A heavy ground-swell is frequently on it. From the Ledge, Speery Rock bears N. by E. ¼ E.; the north black rock, N. by E. ¼ E. nearly touching Speery Rock; the S.W. or Man and Horse Point, about N.N.W.; Long Range Point, E. by N. ¼ N.

To avoid the Speery Ledge, if sailing along the south-east side of the island to the westward, keep the Shore Rock open with Long Range Point till the northernmost of the Black Rocks opens to the westward of Speery Rock; then you may haul up for the S.W. point of the island. About a mile W. by N. of Speery Ledge is a patch of 10 fathoms, rocky bottom; between Speery Rock and the Ledge are 24, 26, and 35, fathoms, and the bank of soundings extends two miles without the Ledge, in a South and S.S.W. direction, with 50 and 58 fathoms, fine sand, on its outer border.

winds

winds strong in the N.W. with hard gales.—*23d*, 37° 56′ S., 20° 4′ E., strong gales at W.N.W., a tremendous sea, which stove the waist-boat to pieces.

24th August, 38° 20′ S., 20° 20′ E., violent gales in the N.W., heavy sea.—*25th*, 38° 33′ S., 20° 33′ E., hard gales in the N.W., with harder squalls, rain, and very high sea, which tore away some of the waist-boards.—*26th*, Hard gales westerly, with high sea. We are bound to the N.W., but these violent winds carry us to the S.E. Latter part strong winds at N.N.W., and a high sea. *I find, by my watch and observations, that we have been assisted by a favorable current during the gale;* at noon 38° 20′ S., 18° 20′ E.

27th August, 38° 41′ S., 18° 40′ E., gales, with a high sea, increasing to a perfect storm.—*28th*, a perfect storm at N.W. *More wind, for such a continuance, than ever I before experienced in twenty-eight years sufferance on a restless element.* Still lying bull-to. —*29th*, 37° 12′ S., 18° 0′ E., storm still violent, with dreadful squalls; have been forty-eight hours without canvas, in gales more awful than ever I before witnessed. I found, by observation at noon, that we had had *a strong current setting to the northward, and fortunately some westing in it.*

30th August, 36° 52′ S., 18° 0′ E., strong gales westerly, with a high sea; latter part, wind in its old direction, and threatening to be more furious.—*31st*, 36° 1′ S., 17° 30′ E., strong gales westerly, with more sea than wind; middle part, winds southerly; latter, moderate breeze.

1st September, 35° 35′ S., 14° 46′ E., moderate winds easterly: the water which, for some days, has been *discoloured*, begins to get blue again.—*2d*, 34° 5′ S., 13° 47′ E., winds fair in the S.E. with fine weather.—*3d*, 32° 30′ S., 12° 34′ E., wind continues fair in the S.E.; the water much discoloured, as if on soundings, and so continued till near noon, when it became blue again: light winds, in the latter part, got round to the northward.

4th September, 32° 57′ S., 11° 23′ E., wind variable in the N.W., weather fine.—*5th*, Wind in the N.W., hazy.—*6th*, 29° 57′ S., 9° 41′ E., moderate winds westerly; a high swell from S.W.—*7th*, 28° 21′ S., 8° 28′ E., light winds westerly, heavy swell from the S.W.—*8th*, 26° 47′ S., 7° 16′ E., moderate winds southerly; fine weather.—*9th*, 25° 19′ S., 6° 14′ E., wind southerly; high swell from S.W.—*10th*, 24° 1′ S., 5° 17′ E., light winds southerly, fine weather.—*11th*, 22° 11′ S., 3° 57′ E., light winds southerly, fine weather.—*12th*, 20° 11′ S., 2° 31′ E., fine breezes in the S.E.; the last twenty-four hours lost much of the S.W. swell, and the pintado birds have now entirely left us.—*13th*, 18° 10′ S., 1° 15′ E., moderate breezes in the S.E.—*14th*, 16° 5′ S., 0° 4′ W., fine trades, cloudy.

15th September, Strong trades, cloudy. At noon was surprised to find my latitude 16° 27′ S. Hauled up immediately N. by E., fearful I might have passed the island in being so much out in my latitude; though, by dead-reckoning, since my last observation, we are still well to windward of it, in long. 2° 56′ W. By watch, this morning at seven, 4° 59′ W.

16th September, Moderate trades, with cloudy weather; saw many small white birds. At day-break saw *St. Helena* bearing W. by N. ½ N. 5 leagues. Bore up for the island; and, at ten, *a. m.* anchored under Ladder Hill, with several other vessels in the roads. Moored with our kedge to the S.S.W.

The SIR ANDREW HAMMOND, Capt. Abr. Bristow, November, 1817.—*20th November*, lat. 28° 22′ S., long. 32° 52′ E., wind northerly, middle and latter part, hard gales.—*21st*, 28° 40′ S., 32° 30′ E., strong gales from the northward, with a high sea, middle part variable, with thunder, lightning, and rain; latter part a strong wind in the S.W.—*22d*, 28° 9′ S., 32° 54′ E., wind to the S.W. strong.—*23d*, 28° 20′ S., 33° 5′ E., wind southerly, inclining to the east.—*24th*, 28° 46′ S., wind north-easterly and unsettled.—*25th*, 29° 6′ S., 32° 27′ E., wind, first northerly, then hard gales in the S.W.

26th November, 29° 17′ S., 32° 12′ E., hard gales in the S.W., middle and latter part more moderate.—*27th*, 29° 53′ S., 32° 6′ E., wind easterly, which increased to a storm in the N.E. with a prodigious sea: afterwards shifted round to the westward, with hard gales.—*28th*, lat. 30° 4′, hard gales from W.S.W. with a high sea.—*29th*, lat. 30° 15′ S., hard gales in the S.W., succeeded by a high swell.—*30th*, 31° 28′ S., 33° 27′ E., wind easterly, with a heavy swell from the S.W., middle part increased to a heavy gale, and latter

latter part a perfect storm, with a prodigious high irregular sea. At the time of dinner, a wave broke into the cabin-windows, washed all away, and gave captain and mate a complete soaking.

1st December, 31° 53′ S., 32° 47′ E., Violent gales, with a very heavy sea; the wind then abated suddenly, and then became westerly, with a high swell against it from the N.E. —*2d*, No observation, wind westerly, with a high swell from N.E.; the former increased to a strong gale from the S.W.—*3d*, 32° 31′ S., about 33° E., Strong gales in the S.W., with a mountainous sea.—*4th*, 33° 29′ S., 32° 45′ E., Hard gales, with a high sea: the wind then moderated and shifted to the N.E.—*5th*, 33° 23′ S., 31° 0′ E., Strong gales in the N.E., hazy weather.—*6th*, Lat. 33° 18′, Wind in the S.W. with a high swell.—*7th*, 33° 34′ S., 29° 30′ E., Same as preceding day.—*8th*, 34° 31′ S., 27° 50′ E., same as two preceding days.

9th December, 35° 59′ S., 24° 50′ E., Wind easterly, with some hard gales.—*10th*, Weather the same.—*11th*, Calm at sun-set, then a little wind in the N.E., thence North and N.W. The ship has now been on this coast for three weeks, and in the whole time there has scarcely been three days in which a boat could be lowered down, but one gale has closely followed another from all points of the compass, excepting S.E., and always a high sea or swell. Lat. at noon, 36° 45′, long. 22° 40′.

12th December, Lat. 37° 0′, long. 22° 50′, Hard gales in the N.W. with squalls of rain. —*13th*, No observation; hard gales westerly, with a high sea, which increased to a storm; at midnight a tremendous sea; at one *a. m.* it blew a perfect hurricane, that lasted the twenty-four hours; at eleven *a. m.* the body of a sea passed over the ship into the larboard quarter boat, and wrecked it. No observation.

14th December, First part, the storm as above, and the sea passing over the ship as though she was a rock even with the surface of the water; the squalls dreadful, middle part it moderated some, but we continued to ship a deal of water, lat. obs. 37° 28′, long. 24° E., by which it appears the storm has drifted us above a degree to leeward.—*15th*, Hard gales in the N.W., middle and latter part more wind. Lat. obs. 38° S.—*16th*, Hard gales, with harder squalls. Lat. 36° 57′ S., long. 24° 10′ E.—*17th*, Little wind, with a high swell, middle part light winds, latter part mostly calm. Lat. 36° 54′; long. 23° 38′.—*18th*, Mostly calm, but the swell keeps up; middle, the wind began to breeze in the N.W. Lat. 37° 35′, long. 22° 53′.—*19th*, Hard gales westerly. Lat. obs. 37° 34′ S., long. 22° 50′ E.—*20th*, Hard gales westerly, by sun-set the wind had increased to a perfect storm; middle part, the wind moderated. Lat. obs. 37° 32′ S., long. 23° E.—*21st*, Wind westerly, with a high swell. Lat. obs. 37° 4′ S., long. 22° 16′ E.—*22d*, Swell high from the S.W., wind westerly. Lat. obs. 37° 26′, long. 20° 40′ E.

23d December, Strong winds, westerly, with a high swell; at five *p. m.* just as we were driving the last nail into the boat under repair, a sea broke on board, and made her a complete wreck; latter part hard gales, with violent squalls, and a tremendous sea; by a glimpse of the sun our lat. was 38° 37′ S., long. 20° 40′ E.—*24th*, Violent gales and a prodigious sea. Lat. obs. 38° 52′, long. 19° 30′.

25th December, Hard gales in the S.W. with a very cross sea. Lat. obs. 38° 29′ S., long. 17° 50′ E.—*26th*, Wind westerly, with fine weather. Lat. obs. 38° 19′ S., long. 17° 30′ E.—*27th*, Wind northerly, with a swell from the westward. Lat. obs. 37° 18′ S., long. 16° 20′ E.—*28th*, Wind westerly, middle part got round to the southward, and from thence to the S.E.; latter part, weather fine. Lat. obs. 36° 32′ S., long. 14° 50′ E.

29th, Wind in the S.E. with a high swell from the W.S.W. weather fine; at seven *a.m.* got a set of distances, long. 13° 50′ E. by the watch, 13° 31′ E. Lat. obs. 35° 17′ S., long. 13° 14′ E.—*30th*, Wind northerly, middle part it freshened, and got round to the westward; at eight *a. m.* got a set of distances. Long. 12° 51′ 30″, by watch, 12° 27′ E. diff. 24′ 30″. Lat. obs. 34° 44″ S.—*31st*, Wind southerly, a very high swell from the westward. Lat. obs. 32° 48′, long. 11° 0′ E.

1818, *1st January*, Wind southerly, with a high swell from the westward, middle and latter part cloudy weather, the swell somewhat abated. Lat. obs. 30° 54′ S., long. 7° 4′ E.—*2d*, Mod. westerly winds, middle part it shifted to the southward. Lat. obs. 28° 35′ S., long. 8° 40′ E.—*3d*, Wind southerly. Lat. obs. 26° 34′ S., long. 7° 4′ E.—*4th*, Wind southerly, weather cloudy. Lat. obs. 24° 38′ S., long. 5° 50′ E.—*5th*, Wind southerly in squalls. Lat. obs. 22° 40′ S., long. 4° 24′ E.—*6th*, Wind southerly in squalls. Lat. obs. 21° 5′ S., long. 3° 0′ E.—*7th*, Mod. trade at S.S.E. Lat. obs. 19° 35′ S., long.

S., long. 1° 50′ E.—*8th*, Mod. trades, no obs. Lat. acct. 18° 8′ S., long. 0° 48′ E.—*9th*, Trades shifting in the S.E. Lat. obs. 16° 38′ S., long. 0° 10′ W.—*10th*, Mod. trades, weather very cloudy; got a glimpse of the ☉ and ☽ 2° 49′ 45″ W. by watch, 2° 22′ W. Lat. obs. 15° 55′ S.—*11th*, Brisk trades; at eight *a. m.* long. per watch, 4° 49′ W.; at nine *a. m.* saw the Rock of St. Helena, bearing W. by N. ¼ N. dist. 10 leagues. Lat. 15° 56′, long. 5° 9′ W.—*12th*, Moderate trades, middle and latter part squally. *At anchor under the lee of St. Helena.*

The LEDA, Capt. Jas. Steuart, 1817 and 1818.—The Leda took her departure from England, in May, 1817. Crossed the line 1st September, in 19° W. North of the line, on approaching it, the currents had appeared to be south-westerly; but, on the 9th of September, in 12° 42′ S. and 25° 58′ W., it had a tendency to the northward of west. On the 10th and 12th, it was the same, and a strong southern swell had then been met for several days.

7th October, At day-light the Table Land of Good-Hope was seen. The longitude by last lunar proved to be quite correct: that by dead reckoning was 3 degrees to the eastward, and supposed to be owing to westerly currents.—*8th October*, Anchored in Table Bay, within the Bank, and moored with a cable N.E. and S.W. Post-office bearing west.

October 12th to *18th*, In Table Bay. It is difficult to describe the violence of the gusts of wind which come off the land. Did it blow as hard from the sea, it would be impossible for ships to ride out its fury. The worst wind for shipping that can blow here is from N.N.E. to N.W.; but, thanks to Providence, those winds seldom blow home, though they prevail with great fury at a short distance from the land. It is the custom in this bay, when ships have cargoes to deliver, to strike yards and topmasts, as already noticed.

27th October, Took an excursion up to the top of the Table Mountain, and was highly gratified by the beautiful prospects.

From the Cape of Good-Hope the Leda proceeded to Ceylon, and, on her return to the Cape, Captain Steuart drew those appearances of the land, of which reductions are given on the Chart. At day-light, on the 22d of June, a remarkably fine morning, the Leda again weighed, and made sail for England. At noon, being to the eastward of Robben Island, it was calm: at about one, *p. m.* a breeze from the N.N.E. At two, just weathered Robben Island. Obliged to take in the small sails, and double reef the topsails. At five *p. m.* the clouds rising very black to the northward, and blowing very hard. In fore-topsail and close-reefed the main one. About eight *p. m.* the wind flew suddenly to N.W., and blew violently. Obliged to take in the foresail and main-staysail. The sea running very high, shipped an immense quantity of water. Wind from W. by N., our situation at last became alarming, as it was doubtful whether we could clear the Cape of Good-Hope, not being able to bear more sail; it blowing as violent as ever I witnessed it, and the sea as high.

23d June, Weather moderated. At seven *a. m.* Cape Point S.E. by S. 4 leagues. At noon, E.S.E. about 4½ leagues.—*24th*, Broke the jib-boom and cap, with violent pitching. Very hard gale, with sharp squalls of rain. *25th*, Gale still violent; from West, W.S.W., and S.W. Lat. 35° 57′, long. 18° 11′. Afternoon, more moderate.—*26th*, weather fine.

9th July, 1818, Fine breeze, S.S.E., with pleasant weather. Lat. 23° 33′ S., long. 5° 16′ E. Var. per ampl. 23° 30′ W.

15th, In making St. Helena, I prove the longitude by dead reckoning to be nearly two degrees too far to the eastward, which I consider to be *principally owing to western currents*. Strong trades, with frequent squalls.

19th, Ascension in sight—Middle of the island N. by W., about 11 miles. In working the log, I find that I have been driven 25 miles to the westward of estimation in the run from St Helena. At two *p. m.* observed a ship at anchor, with colours flying, likewise colours flying on shore. Wind S.E At four *p. m.* H.M. ship Redpole's boat came on board, and shortly after the governor of the island, a lieutenant of the navy. We were by this time, half-past four, hove-to in the roads. It not being the turtle season, I obtained from the governor only six small ones, and one pumpkin, for which I gave some spirits, there being none on the island. At half-past five *p. m.* made sail from this miserable place, with a pleasant breeze.

22d July,

23d July, Lat. 2° 34′ S., long. 17° 50′ W. Var. per ampl. 15° W. This evening observed the sea to be particularly luminous, and a great number of dolphins.—*23d*, Wind S.E. Lat. 1° 14′ S., long. 19° 8′, Var. 15° W. Strong southerly current, two knots.—*24th*, Lat. 0° 11′ N., long. *d. r.* 20° 43′. Long. by ☽ & ⊙ reduced to noon, 21° 50′, which induces me to consider the current to set S.W.

25th, Lat. 1° 48′ N., long. 22° 33′. Effect of southerly current not so strong.—*26th*, Lat. 4° 16′. Considerably to the northward of estimation by $\log_t$ that is, thirty minutes. Conceive the current to set N.W. Wind south.

27th, Lat. 7° 8′ N., long. 23° 39′. Strong northerly current perceptible.—*28th*, Light winds, S. by W. and S.W. Lat. 9° 10′ N., long. 22° 42′. Observations this day induce me to consider the late northern current must have had an eastern tendency. Var. 16° W. Wind W.S.W.

29th, Lat. 10° 44′, long. 23° 17′. Current S.E. ½ a knot.—*30th*, Lat. 11° 17′, long. 23° 20′. Felt the effect of the S.E. current.—*31st*, Lat. 12° 47′, long. 24° 15′. Current easterly.

1st August, At noon, lat. 14° 19′ N., long. 24° 43′ W., which gave 32 miles S. ¼ E. true bearing, from Brava Roads; which makes the longitude quite correct, and agrees with the following compass bearings, taken at noon. West end of Brava north; Peak of Fogo, N.E. ¼ N.; and St. Jago from N.E. by E. ¼ E. to E. by N. ¼ N. Current setting to the northward: weather calm.

3d August, Lat. obs. 14° 33′, long. 25° 14′. Wind N.N.E. Fine pleasant weather, every appearance of the N.E. trade wind.—*9th*, Lat. 22° 43′, long. 30° 14′. Long. by several sets of distances reduced to noon, 32° 14′ W., induces me to conclude I must have had a strong western current.

11th August, Lat. 26° 29′, long 33° 21′; passing sea-weed in great quantities.—*13th*, Lat. 38° 48′, long. 34° 23′. Var. 15° W. Current setting N.W.—*21st*, Lat. 38° 18′ long. 28° 55′. By bearings of Fayal and Pico, near 100 miles to the westward of dead reckoning, in the run from the Cape Verde Islands. After leaving the Cape Verde Islands, the current set strong to the westward. In about 25° N. N.W.; 32° N. S.W.; and within the last few days its general tendency has been northerly and N.E. Var. 19° 20′ W.

23d August, Lat. 41° 12′ N. being 13′ to the north of lat. by *d. r.* owing to current, Var. 25° W.—*24th*, Lat. 42° 44′, long. 28° 5′. Found the current to set N.W.—*26th*. Inclinable to calm. At eight *a. m.* observed something floating on the lee-bow, which was, at first, taken for a boat; but, on a nearer approach, found it to be the butt-end of a very large tree, covered with barnacles and shells, and surrounded with fish. I am clearly of opinion that, in a gale of wind, in twilight or moonlight, similar things have been mistaken for rocks! Lat. by *d. r.* 45° 5′, long. 28° 48′. Current N.N.W.

27th August, Lat. 45° 22′, long. 27° 30′. Var. at ⊙ rise, 25° W.—*29th*, Lat. 46° 22′, long. 22° 6′. Var. 25° W. Current to S.E.

1st September, Lat. 48° 11′. Ship 14 minutes to the southward of estimation, apparently owing to a S.E. current. Long. *d. r.* 11°, corrected 12° 12′.—*10th*, At noon anchored off Purfleet. Mr. P********, the tide-surveyor, came on board, and *seized all the little nick-nacks I had as presents.** Such meanness is unpardonable. But I cannot conceive it was ever the intention of the legislature that an individual should be robbed, when no injury was intended to be done to the revenue.

30th, The cargo being discharged in good condition, paid off the worthy crew, and parted with regret.

(Signed) JAS. STEUART.

* The practice seems to have become general, disgusting as it is to every liberal mind. EDIT.

4.—*The* NORTHERN *and* EASTERN COASTS *of* SOUTH-AMERICA, *from* GUYANA *to* TERRA DEL FUEGO.

THE COAST OF GUYANA, FROM THE MARANON TO CAYENNE.

THE country comprehended under the name of GUYANA extends, southward, from the River Orinoco to the River Maranon, vulgarly called the River of Amazons. The coasts of it are generally low; as the numerous rivers bring down vast quantities of alluvial matter, which, accumulating on the shores, has formed a border of low ground. This ground, between the high and low water marks, is commonly covered with mangroves; at low water, it appears like an inaccessible bank; but, with the spring-tide, it is inundated.

Within the mangrove shore, at the distance of about five hundred paces, commence low, level, and swampy, savannas, variegated and extended irregularly, according to the distance of the inland mountains. The water on all the coast is brackish.

On a great part of this coast there are, in the year, two rainy and two dry seasons; the first in December, January, and February; and again in June, July, and August. In the dry season, during the other months, the air is refreshed by diurnal sea-breezes; in the wet seasons, on the contrary, land-winds prevail, and they are unhealthy.

GUYANA is politically divided into PORTUGUESE, FRENCH, DUTCH, (now partly BRITISH,) and SPANISH, or COLUMBIAN; these different portions having been occupied by the respective nations. PORTUGUESE GUYANA is situated on the left or northern bank of the Maranon, and is bounded by the stream of the Arawary or Aruari, in about $1\frac{1}{2}^{\circ}$ North: FRENCH GUYANA extends from the Arawary to the River Maroni or Marowyné, in 5° 48′ N.: DUTCH GUYANA extends thence to the River Courantin: BRITISH GUYANA extends, *on the coast*, from the Courantin to the southern point of the Orinoco; and SPANISH GUYANA thence westward.

The RIVER MARANON.—The Maranon is considered as the first river in the world. Mr. Pinkerton has said, "Among the grand rivers, which water the globe, and diffuse fertility and commerce along their shores, the Maranon will ever maintain the preference." The truth of this averment seems to be unquestionable: the sources of this river being within two degrees of the Pacific Ocean, about the parallel of 11° S. and several great rivers fall into it, these again having innumerable branches. The course of its grand stream is nearly east, across the continent, until it falls into the Atlantic, under the equinoctial line. The river is said to be navigable through nearly its whole length, though impeded by many banks of sand, some of which extend 30 or 40 leagues. Below its confluence with the River Xingu, at 40 leagues from the sea, its opposite banks are invisible from each other. At OVIDOS, more than 140 leagues from the sea, its breadth is about 1000 fathoms. The tide is perceptible to the distance of 150 leagues.

The declivity of the bed of the river, from Ovidos, has been computed at only four feet; yet the immense body of interior water gives it an astonishing impetus: so that it rushes into the sea with an amazing velocity, and is said to freshen the ocean, at times, to the distance of nearly eighty leagues from the shore. This rapidity, on the return of tide, occasions a bore, called by the Indians *pororoca*, which is chiefly observable towards the *Cape del Norte*, (Cape North,) and which far surpasses those of other great rivers. This phenomenon always occurs two days before and two days after the full and change of the moon; when, at the commencement of the flood, the sea rushes into the river, forming three or four successive waves, that break mountains high on the bar, and raise the tide within to its greatest elevation in one or two minutes. It has been said that the elevation of these ridges of water has amounted to not less than two hundred feet; but the ordinary rise, over the bar, is from twelve to thirteen feet. The noise of the irruption may be heard at the distance of two leagues.

The

The banks of the river are generally crowned with vast forests of lofty trees, among which are many of a rare and medicinal nature. Serpents of prodigious size are found in the marshes, and alligators are common.

The mouths of the river are formed by numerous isles of alluvial land, as shown on the Chart. The only places within, of which any thing are known, are the little fort of MACAPA, and the fortified village PARU, both of which are situated on the north bank of the river.

The appearance of the coast between Cape North and Oyapok River has been already noticed in Note 5, page 11. In the '*Derrotero de las Antillas*' the coasts are described as follow:—

"The coasts, which extend from the North Cape *(Cabo del Norte)* to the great mouth of the Orinoco, (which is in lat. 8° 41′ N.) are very low, and soundings off them reach out a great way to sea. This circumstance is the only mean of ascertaining with certainty their proximity. Any other mode of recognising the coast is very difficult; for, in the clearest day, it is not possible to discover the coast five leagues off: and the nature of the coast itself impedes a nearer approach than two leagues, on account of the shoalness of the water, and the banks of sand and mud, of great extent, with which it is obstructed.

"The harbours on this coast are the mouths of rivers only, all of which have bars, more or less navigable, and to enter a practical knowledge is necessary.

"From the Cabo del Norte to Cape Casipur the land is very low and wet, and is covered with a thick wood, without any other mark to recognise it by than the hill or mount of *Mayez*, a kind of platform, insulated and hilly, which may be seen, in clear weather, at the distance of five or six leagues. Its latitude is 3° 5′ N. The soundings hereabout extend far out to sea. You may sail along the coast, at three leagues from it, and, at that distance have from 8 to 10 fathoms. At ten leagues from land the depth increases to 15 and 20 fathoms; and, at fifteen and twenty leagues distance, there are from 25 to 30 fathoms, with bottom of soft clay, or of fine sand of different colours. The current runs N.N.W., but, close to the shore, varies according to the tide, of which the flood runs *W.N.W.* and the ebb *N.E.*, at the rate of about three miles an hour. It flows at six o'clock on full and change days, and rises from 12 to 15 feet.

"The general velocity of the current, outside the influence of the tides, may be estimated at two miles an hour. On this account, in making this coast, it is always necessary to make it in less latitude (*i. e.* more to the south) than that of your port of destination. It is the custom of those bound to Cayenne, to endeavour to strike soundings about N.E. from Cabo Norte, and at twenty or thirty leagues from it, at which distance they find from 40 to 50 fathoms of water.

"Cape Casipur lies in N. lat. 3° 50′. Near it there is a great bank of clay, which runs five or six leagues out to sea; its extent from N. to S. is about four leagues; with 4 and 5 fathoms water upon it. On account of this, vessels from the southward, making this Cape, ought not to run along the shore nearer than five or six leagues. After having passed this bank, Cape Orange bears W. by N. distant from six to seven leagues; and although from this place it cannot be discovered, yet its proximity may be ascertained without any doubt: for, steering north, you will deepen the water from 5 to 10 fathoms, in running less than a mile; when you find this latter depth, you ought to steer W.N.W. (or even west if necessary), to preserve the same depth. It is to be remarked that, when a vessel is near Cape Casipur, and in 5 fathoms water, she ought not to be steered so as to maintain that depth; but that it is necessary to steer North, or even N. by E., until you get 7 fathoms water, when you will no longer be able to see the land from the deck, as it is very low. After steering the same course for a short time, in 7 fathoms, you may steer N.N.W. and N.W. with the same depth. With these courses you will near Cape Orange insensibly, and make it at the distance of two or three leagues, when in 8 or 9 fathoms water. Between this Cape and Cape Casipur, the river of that name disembogues itself.

"CAPE ORANGE may be known by a cut point, *(punta cortada,)* or, rather more properly, a point which seems to have been cut or shortened, which is on the side next the sea, and is the highest land to the S.E. of the same Cape; and also by the Montanas de la Plata, (Silver Mountains,) which form various peaks, appearing insulated and detached the one from the other; and which are the more remarkable, as they are the first high land

land which is discovered in coming from Cabo Norte. Approaching Cape Orange, you may discover various remarkable hills over the point which forms the entrance of the river Oyapok.

"Beyond Cape Orange, the coast forms a bay, of four leagues in breadth, in which the great river Oyapok disembogues itself, and into which also two other rivers, of small consideration, discharge their waters. The one to the eastward is named *Coripé*, and that to the westward is called *Ouanari*. The Mountains de la Plata serve not only as a mark for Cape Orange, but also for this bay; because, beginning to rise on the west coast in a swampy country, they come down almost to the edge of the sea.

"The River Oyapok is two leagues wide at its entrance, and you may anchor in it in 4 fathoms, clayey bottom, keeping *Mount Lucas* west, at the distance of three quarters of a league. Mount Lucas is a small, but tolerably high, hill, on the point which divides the rivers Ouanari and Oyapok. One league up the river (Oyapok), there is a low island, named De Venados, which is covered by very high tides. You may pass to the westward of it, where you will have 4 fathoms water close to the shore. After the Isla de Venados, there are some other small islands which do not embarrass the navigation of the river. After sailing up the river five or six leagues, there is a handsome bay, which serves as a harbour, and in which you may anchor in four, five, or six, fathoms water, and as near the shore as you please. At this place there is a small fort, and a country-house (*aldea*).

"About twelve leagues to the N.W. from the river Oyapok is the river Aprouak, which, also, is of some importance. Its entrance is two leagues wide, and it has from 3 to 4 fathoms water. The lands which form it are very low, marshy, and covered with mangroves. Two leagues up the river, and in the middle of it, there is a low and very narrow island, of about half a mile in length, covered with wood, and named *Pescadores* (Fisherman's Island). To the north of it a bank of sand runs out more than two miles, to which it is necessary to give a berth when you enter into the river. There is a channel on each side of the island. The one to the eastward has 3 fathoms water, but that to the westward not more than 2 fathoms.

"Five leagues north of the mouth of this river there is a moderately high *bare* island, in shape resembling a half-orange: it is called the *Great Constable*, to distinguish it from another smaller island, which lies half a league from it, nearer the coast, almost level with the water, and which is called the *Little Constable*.* The Great Constable (or *Gunner*) may be discovered eight or ten leagues out at sea. Vessels bound to Cayenne direct their course to these islands from Cape Orange, from off which they bear W.N.W. distant eighteen leagues. In this passage it is necessary to keep in 8 or 9 fathoms.

"The Great Constable has 3 fathoms water all round it, and is very clean. The Little one lies E.N.E. and W.S.W. with the Great one. You may pass between them in 8 or 9 fathoms water, observing to keep within two musket-shots of the Great one, and to leave the Little one on the larboard hand.

"N.N.W. from the Great Constable there is a rocky shoal, which some place at two, others at three, and others even at four, miles distance from it. To avoid this shoal is the principal reason for passing between the Constables. The French ship of war, La Gironde, bound to Cayenne, in 1788, after having passed between the Constables, leaving the Great one on the starboard hand, steered N.W. by W. for the Islands of Remire, (the *Mother* and *Daughters*,) and soon after discovered the water breaking upon what appeared to be rocks, which bore N. by W. about a league distant. At the same time the Great Constable bore E. by S., and the Little one S. by E. From this it appears that the shoal lies N. 39° W. from the Great Constable, at the distance of four miles. Its extent may be about five cables' length, and it lies N.W. and S.E.†"

* These are the *Gunners* of the English Charts.

† For the description of the Coast north-westward, with Sailing Directions, see the '*Columbian Navigator, or Directory for the West-Indies, &c.*' compiled by the Editor, and published by the Proprietor, of this work.

COAST *of* BRASIL, *from* CAPE ST. ROQUE *to the* MARANON, *including* SEARA, MARANHAM, *and* PARA.

THE BANKS or SHOALS of St. ROQUE extend in a W.N.W. direction, as shown on the Chart. Pimentel* says that they have been represented as of greater extent than they really occupy, by way of caution; which may have been very proper, considering how little is yet known of their exact extent, soundings, &c. Some parts are stated to be above water, with deep channels between. At the western termination are three high rocks, known to the pilots by the name of URCAS. Between these Urcas is a good depth of water, and close to them is a depth of 12 fathoms.

Vessels from the southward, if bound towards the Maranham or West-Indies, should keep well without these shoals; but, having doubled them, may stand in again for the coast, and proceed in safety to the north-westward. Coasters and small craft proceed between the coast and the banks.

DESCRIPTION of the COAST.—The following is extracted from the work of Pimentel, who appears to be the only writer acquainted with this coast; excepting, however, that we assume Cape St. Roque as a headland distinguished by its red cliffs, while he gives that name to a black point situate two leagues more to the southward. To the south of these cliffs is a reef, about a musket-shot in length, near which is anchorage in 4 and 5 fathoms. Hence you proceed between the shoals and land, in about 5 fathoms; but, should it be necessary to tack to the southward, caution is requisite, as there are several shoals which may not be seen.

From Cape St. Roque to Pta. Petetinga is five leagues to the N.W. and N.W. by N. At the foot of this hill, or eminence, is a stream, where you may obtain water; and, at about a musket-shot from shore, is a high reef, near which you may anchor in 3 or 4 fathoms; bottom of sand and mud. The coast, in general, is flat and barren.

At three leagues from Petetinga, westward, are some rocks on the shore called PEDRA DA GARÇA, near which any ship may anchor: and, at about fifteen leagues to the west, is the PONTA DAS PEDRAS, or Point of Rocks, with the rocks called The Three Brothers. Of all the coast between, the country is bare and black, its surface covered with sand, and it appears like small islands.

Off the Pta. das Pedras are three shoals of rock, having a channel between them and the main of 3 and 4 fathoms. At three leagues outward are reefs above water.

Of the RIVER GUAMARE' to the S.W. the distinguishing marks are two inland sugar-loaf mountains, of unequal heights. To the west is the island Tubarao; then follow the rivers Amargoso, Cavallos, and Conchas: of these rivers the first two lead to the salt-ponds of Assu, whence many parts of Brasil have been supplied. The coast hence trends to the PONTA DO MEL, or Honey Point, as shown on the Chart: the point may be known by its high red cliffs; and hereabout were, and probably still are, some palm or coco-trees.

At the RIVER UPANEMA, situate as shown on the Chart, are natural salt-ponds, which, like those of Assu, require no artificial means for crystalization. Its entrance has a bar of little more than one fathom at high water, although within there is a depth of 8 fathoms. Here the land is very level; and, on the west of the river, there are, as far as a field-piece can carry, red cliffs. Within land is a sugar-loaf hill. Ships, however, should not advance into the bay, as it is full of shallows.

From the River Upanema to the N.W., the next river of any consequence is the IAGUARIPE, which may be known by a round bare hill of sand, on the N.W., terminating in a rock below, and within land a mountain, having seven sugar-loaf points.

Five leagues inland from the Iaguaripe, rises the range of the GUMAME' MOUNTAINS, which extend ten leagues in the direction of East and West.

Commencing at about three leagues from the River Iaguaripe, the land for nearly four leagues, close to the sea, appears dark and full, with several openings like bays. At about half a league from the commencement of these openings are some white cliffs, in

* MANOEL PIMENTEL, who, about a century ago, was hydrographer to John V, king of Portugal. His intelligence and industry justly entitled him to royal patronage.——ED.

shape

shape like a schooner, with all sails set, and head at East. So soon as this full land terminates, the coast assumes a more flat and level appearance.

Pimentel says, "Whoever goes to the Maranhaõ, (or Maranham,) ought to make the coast during the months from December to July, because these are the winter rainy months, in which season the land appears clear and bright, and no high winds then prevail on the coast; but August, September, October, and November, are the windy months, and the land during that season is constantly covered with a thick haze; and the higher the wind, the more hazy it is. The winds which are constant on this coast are the N.E., E.N.E., and East, which are all fair to go into and out of the harbour. On the coast, in general, you may anchor at two leagues from the land, but it should not be in less than 8 fathoms at high water."

The soundings, as now laid down on the Charts, in the vicinity of Maranham, are to be depended on, and will therefore be found extremely useful in making the harbour, to ships coming in between the parallels of one and two degrees South, more especially in hazy weather, when observations for longitude cannot be obtained.

The current in the offing, in general, runs at the rate of a mile and a half per hour to the N.W., nearly in the direction of the bank. Close in shore, to the eastward of St. Anna's Island, a weak tide runs along-shore. The ebbs from the rivers set outward with considerable strength.

Upon the south bank of the River Iaguaripe, at the distance of about eight miles from the entrance, is the town of Aracati. At the entrance is a bar, narrow and dangerous, owing to sand-banks on each side; and upon these the surf is very violent. The sand is so loose at the mouth of the river, that, even with the coasting vessels of the country, every precaution is required. The river widens immediately within the bar, and forms rather a spacious bay; but the port cannot, from the uncertainty of its depth, ever become of any importance, and it has, at times, been nearly choked up.*

The town of Aracati consists chiefly of one long street, with several minor streets branching from it to the southward. Thus far the river is influenced by the tide. At the ebb the stream is fordable; and, as it spreads considerably from the main channel, some parts remain quite dry at low water. The houses of Aracati, unlike those of any of the villages in the vicinity, have one story above the ground-floor, and this because the floods are sometimes so great as to render it necessary occasionally to retreat to the upper part of the houses. The town has three churches, a town-hall, and prison, and about 600 inhabitants.

Pimentel describes the Bay of Iguape, to the eastward of Seara, which he says forms a small harbour to the westward of some low level land. The bay is surrounded by very high perpendicular cliffs, against which the sea breaks at half tide. It has a high round rock, behind or within which is shelter and anchorage in two and a half or three fathoms. On the N.W. of this bluff rock you may anchor in the very roll of the sea, as it has 4 and 5 fathoms; and, on the strand, are pits for watering. Along-side of the rock of Iguape, on the east, the river Xaro falls into the sea: and, on its west side, three leagues out to sea, is a shallow of green water, of 5 to 7 fathoms, with bottom of mixt sand, and, in some places, small shells.

Seara is the most important town upon this part of the coast. The bay on which it stands is formed by Point Macoripe (in latitude 3° 40′ 30″ S., and longitude 38° 27′ W.) to the eastward, and by the River Papina to the westward, an extent of about 4 leagues. It is extremely open; its greatest depth being three miles.

Abreast the town, and at the distance of half a mile from the shore, extends a ridge of rocks, level with the water's edge, and within which small craft generally anchor, the entrance to the anchorage being around the eastern end of the reef.

The land within Point Macoripe is a high and irregular sand-hill, terminating in the point, which has a tower near the extremity. Ships advancing from the N.E. should not approach the point nearer than three miles, and should choose a berth without the points which form the bay. Tolerable anchorage may be obtained by bringing the point to bear S.E. by E., and the town of Seara South, about 4 miles distant from shore, in 5 fathoms, sand and mud. His Majesty's ship Inconstant was the first English ship of war that had anchored here within the memory of the oldest inhabitants; having brought up in a spot which had previously been occupied by the American frigate Constitution.

* Koster's Travels in Brasil, vol. I. p. 175.

Mr.

Mr. Henry Koster, in the Narrative of his recent Travels in Brasil, has given the following description of Seara, &c.

SEARA.—The *Villa da Fortaleza do Seara Grande*, or town of the fortress of Seara, is built upon heavy sand, in the form of a square, with four streets leading from it, and it has an additional long street on the north side of the square, which extends in a parallel direction, but is unconnected with it. The dwellings have a ground-floor only, and the streets are not paved; but some of the houses have foot-paths of brick in front. It contains three churches, the governor's palace, the town-hall and prison, a custom-house, and the treasury. The inhabitants are computed at about 1200. The fort, from which the place derives its name, stands upon a sand-hill close to the town, and consists of a sand or earth rampart towards the sea, and of stakes driven into the ground on the land-side. It has about half a dozen ill-arranged guns. The powder magazine is situated upon another part of the sand-hill, in full view of the harbour. There is not much to invite the preference given to this spot; it has no river, nor any harbour, and the beach is bad to land upon; the breakers are violent, and the *recife*, or reef of rocks, affords very little protection to vessels riding at anchor upon the coast. The settlement was formerly situated three leagues to the north-westward, upon a narrow creek *(Papina)*, where there now exists only the ruins of an old fort. The beach is steep, which renders the surf dangerous for a boat to pass through in making for the shore, and landing is particularly inconvenient. The anchoring ground is bad and exposed; the winds are always from the southward and eastward: if they were very variable, a vessel could scarcely ride upon the coast.

The Recife or Reef forms a complete ridge, at a considerable distance from the shore, and is to be seen at low water. It extends parallel with the shore for about one quarter of a mile, with two openings, one above and the other below the town. A small vessel may come to anchor between it and the shore; but a ship can only bring up either to the northward or to the southward of the town, in one of the openings of the ridge, or on the outside of it. The opening to the northward is to be preferred. A vessel coming in from the northward should make Point Macoripe, which is a league to the eastward of the town, with a small fort on it, and may thence bring up in 6 or 5 fathoms. On the appearance of a ship, the town-fort displays a white flag upon a tall flag-staff.

Northward of Seara, between the reef and shore, is a rock, called *Pedra da Velha*, or the *Old Woman's Rock*, which may be known, even at high water, by the breakers over it. When a vessel leaves the port she may pass between this rock and the shore, giving berth to a shoal which lies about 100 yards to the northward, or she may run between the rock and the principal ridge or reef.

The public buildings at Seara are small and low, but neat and white-washed, and adapted to the purposes intended. The commerce is very limited, and not likely to increase.

The following Description of, and Directions for, the navigation from SEARA to MARANHAM, is from the pen of Lieutenant Hewett.

"From SEARA the coast trends N.W. by W. to Jericoacoara,* the depth gradually increasing off shore; but a N.W. course should be pursued, to avoid a spit, the base of which extends from Mount Melançias to Jericoacoara, and terminates in a N.E. direction from the latter, at the distance of 6 or 7 leagues off shore. Having run one hundred miles upon the above N.W. course, including a mile and a half per hour for the current's assistance, in soundings varying from 11 to 20 fathoms, change the course to W. ¼ N.; which is nearly the direction of the coast from Jericoacoara to Mangues Point; and it will give you a sight of the land as far as the island of St. Anna.

"When ships are bound to MARANHAM, from seaward, it is absolutely necessary to make the land considerably to the eastward; as the currents, in general, set very strongly between W. ¼ S. and W.N.W. If, in endeavouring to make the land, you should be in latitude about three degrees South, on discovering it, you will be off Mount Melançias, or between it and Seara; if the latter, three other mountains will be observed to the S.S.E., lying nearly S.E. and N.W. of each other, which mountains are about 7 leagues to the westward of Seara, and are easily seen from that place. About this part of the coast you will have a bottom of fine sand and shells.

* "Jericoacoara is a bay covered with sea-weed, and its coast bare and barren. It is full of shallows, having near the shore only two fathoms. Its distinguishing mark is a fine high mountain, almost round, a little inland, the ground breaking near it, and forming others not quite so high."—*Pimentel.*

"If

"If you should make land when you consider yourself in from latitude 2° 15′ S. to 2° 30′ S., and have a bottom of small red and white stones, you will be off Jericoacoara; if the bottom consists of yellow, blue, and red, stones, you will be off Parnahiba or Tamonia; and three mountains, lying nearly in the meridian of each other, in the neighbourhood of the latter will be seen.

"The WHOLE COAST from POINT MACORIPE to PARNAHIBA is sandy to about half a league inland, whence it appears well cultivated; so that it is easy distinguishable from the coast between Parnahiba and Green Mangues (Maugroves) Point, which consists of nothing but sand, without the least sign of vegetation.

"Inclining to the shore until you are about four leagues distant from it, a W. ¼ N. course will give you a sight of the Island St. Anna; and, by observing the sand-banks well, as you pass along, the entrance of the RIVER PERGUIÇAS will easily be distinguished. The sand will now begin to assume a higher and more irregular appearance; this height and irregularity does not, however, deserve the appellation of hills. When the PERGUIÇAS bears S.S.E. you will begin to shoalen your water to 8 or 9 fathoms, but a steady course should be pursued, as you will presently pass the spit formed by the sand washed from the river, and which, meeting the natural course of the current in the offing, inclines it to the N.W.

"If the day should be far advanced when you are off this part of the coast, haul to the wind under topsails and foresail for the night; standing off into 22 or 24 fathoms, and on into 12 or 14. It would not be adviseable to haul the wind before you are past the Perguiças; as, otherwise, you may be short of day-light for the operations of the ensuing day. At day-light bear up under all sail, pursuing the former course and distance from the shore, and towards the conclusion of the sand-banks* the land will begin to appear a little more fertile, and Green Mangues Point will easily be distinguished. When this point bears S. by W., keep a good look-out for the Island of St. Anna; and, having discovered it, (being the westernmost land,) and brought it to bear S.S.W., haul off N.W. by W. until you are in the parallel of two degrees south, either by calculation or actual observation; then steer due West. When you lose sight of the Island of St. Anna, bearing about S.S.E., you will be abreast the Great Crown Banks, and should keep a good look-out to the southward from the mast-head; and, if breakers should be discovered, or if you shoalen your water to less than 18 fathoms, haul out half a point, but no more. Your distance to be run on the N.W. by W. course will be about thirteen miles, and on the Westerly course eleven miles, including one mile per hour upon each for the assistance of the current, before you alter the course to W.S.W.; which, having done, without fear, look out for MOUNT ITACALUMI a-head, and the TAPITA-PERA coast on the larboard bow.

"MOUNT ITACALUMI is in the shape of a gunner's quoin, and remarkable only from the low land in its vicinity. When this mount is descried, shape a course to bring it to bear W.N.W.; and, by good judgement, not less than 5 leagues distant. This may be assisted by observing the bearing of Alcantra Point; which, at the above distance from the mount, ought to be S.W. ½ W. Here anchor, if the night is far advanced, or the weather thick.

"If you continue on for MARANHAM, steer South, nothing West, under very easy sail; and when Mount Itacalumi bears N.W. by W. you are safe in the eastern channel: but if, in this course, the water should shoalen to less than 9 or 10 fathoms, alter the course a point or two to port, and you will soon perceive whether you have judged erroneously of your distance from the mount: as the decrease of depths are very gradual on both sides of this channel, resume your southerly course again.

"ST. MARCOS POINT, which has on it a square tower, and cannot be mistaken, ought by this time to be discovered, bearing S.S.W. ¼ W., for which keep the ship's head; borrowing, occasionally, on the MIDDLE BANK in 6 or 7 fathoms; and, when POINT ALCANTRA bears W.S.W., you will be completely clear of that danger.

"If, in endeavouring to get into the EASTERN CHANNEL, when Mount Itacalumi's bearing (N.W. by W.) begins to approach, you have so far judged erroneously of your distance from it, as to be in 18 or 20 fathoms, steer from S.S.W. to S.W. by S., being

* The Book called THE BRAZIL PILOT mentions the existence of a mountain of sand two leagues before the Great Sheets terminate. The pilot we had on board knew that such an object had once existed, but that it had been blown away many years ago.

actually

actually in the Western Channel, and this side of the Middle Bank must be avoided; as it is perpendicular in many parts, with 10 and 12 fathoms: but go no nearer to the Tapita-pera coast than three miles, in order to avoid its dangers; and, when Alcantra Point bears W.S.W., steer direct for St. Marcos, as already shown.

"On approaching St. Marcos Point, a sand-bank, dry in many parts, will be seen about two miles N.N.E. of it, between which and the Acercas Bank, which will also be discovered to break in many places, is the channel to St. Luis' Roads. On passing St. Marcos, some rocks will be seen to the westward of it; but, by giving them a berth of half a mile, and bringing the body of Fear Island to bear S.W. and Point D'Accia Fort S.E. you may anchor in 15 fathoms, sand and mud.

"On approaching St. Marcos Bay, in the Inconstant, the day was too far gone to attempt passing the Middle Bank; we, therefore, anchored in 10 fathoms; and, as the pilot judged, near the edge of the Great Crown Bank. Weighing, the next morning, our head being W.S.W. with a view of shooting the channel between the Banks, we rapidly shoalened our water to 6 and 4 fathoms; a considerable alarm was, for a moment, the consequence, as we were going five knots through the water, and the Isis close astern without a pilot; but, altering our course to N.W., the water deepened instantly to 10 and 16 fathoms. Having, when in the shoalest water, taken the bearings of Mount Itacalumi and Point Alcantra, and referring to a Chart which we had on board, it placed us on the Middle Bank; the pilot still persisting that we were in the Eastern Channel, notwithstanding we had evidently crossed a bank to the westward. From this circumstance the survey by boats arose, in which Sir Edward Tucker received every assistance from Captain Christian, of the Isis; and the results of observations were, that the Middle Bank, as well as being considerably misplaced in the whole of the Charts in our possession, differed greatly in shape, and the depth of water was very erroneous, particularly on the western side. It is really 3½ miles long N.N.E. and S.S.W., the southern end, one mile and a quarter wide, tapers away to a point at the northern end. The western side is perpendicular; having 10, 12, and 14, fathoms along-side it: the passage between it and the Tapita-pera coast is dangerous from this cause, and the dangers near that shore, unless the distance is well judged of.

"The soundings in the Eastern Channel gradually decrease from the middle of it to the banks on either side; the holding ground is tolerable, but that in the Western Channel is preferable; the natives generally choosing it from that reason. There is no such depth, by several fathoms, in the Eastern Channel, as we experienced in the one through which the pilot took us, on our passage in; which is a certain proof that his judgement was erroneous."

Mr. Koster, in describing the Port of Maranham, says that they took the channel to the eastward of the Middle Bank, then passed the Fort of St. Marcos, and came to an anchor very near to the sand-banks at the mouth of the harbour of St. Luis. No pilot came off, and the master, with Mr. Koster, got into the boat intending to fetch one, when a signal with an enormous speaking-trumpet gave orders not to proceed to the city, and they were informed that a pilot would come in due time. A pilot at length arrived, accompanied by a soldier and custom-house officer. As the brig went up the harbour, she received the health and custom-house visit, composed of men smartly drest; the administrator of the customs being in the uniform of a cavalry officer; but the regulations of the port proved both tedious and troublesome.

The City of St. Luis is the metropolis of the province of Maranham. From the shore, on the west, it extends nearly one mile and a half in an E.N.E. direction. It comprises some small streets and squares, but is, altogether, built in a straggling manner, airy and pleasant, but is too much sheltered from the sea-breeze, with which it would be more salubrious. The population is computed at 12,000 or 14,000, including negroes, of which the number is great. Many houses, of one story, are neat and pretty. The churches are numerous, and there are several convents. The governor's palace stands upon rising ground, not far from the water-side, with the front towards the town. It is a long uniform stone building, of one story in height. The ground upon which the town stands is composed of a soft red stone; so that the smaller streets, leading from the town into the country, some of which are not paved, are full of gullies, through which the water runs in the rainy season. The dwellings here, consisting generally of a ground floor and thatched roofs, have a miserable appearance.

The following is Mr. Koster's description of the harbour, &c. "The harbour is formed by a creek in the island, and is to be entered from the Bay of St. Marcos. The

channel is of sufficient depth for common-sized merchant-ships, but is very narrow, and not to be entered without a pilot. Opposite to the town the water is shallow at the ebb. It is worthy of remark, that the tide rises gradually more and more along the coast of Brasil, from south to north. Thus, at Rio de Janiero, the rise is trifling; at Pernambuco, it is from 5 to 6 feet; at Itamaraca, 8 feet; and, at Maranham, it is 18 feet.

"The Island of Maranham forms the S.E. side of the Bay of St. Marcos, consequently this bay is to the westward of it. To the eastward of the island is the Bay of St. Joze. From some similarity between the Point of Itacalumi, by which vessels are in part guided, when about to enter the Bay of St. Marcos, and another point of land upon the small island of St. Anna, which is at the entrance of the Bay of St. Joze, instances have occurred of vessels mistaking the latter for the former, and entering the Bay of St. Joze. This error causes great danger and inconvenience; because, owing to the prevalence of easterly winds, it is next to impossible for a vessel to beat her way out of it. It is, therefore, necessary that she should go through the narrow channel, between the main land and the Island of Maranham, a passage of considerable difficulty.

"The Bay of St. Marcos is spotted with several beautiful islands, and is of sufficient extent to admit of considerable grandeur. The width, from St. Luis to the opposite shore, is about four leagues. Its length is much greater; towards the south-end there are several sand-banks, and the water is shallower. It receives here the waters of a river, along the banks of which are situated several cattle-estates; but the River Itapicuru, which runs into the narrow channel between the main land and the island, enjoys the greatest share of cultivation; its banks are extremely fertile, and upon them have been established the principal plantations of cotton and rice, which are the two chief, and almost only articles of commerce from Maranham. The island is, in itself, very little cultivated. There is no considerable plantation upon it. A few of the rich merchants residing in the city have country-houses distant from it about one league, but the remainder of the lands are left untouched; owing, it is said, to the unfitness of the soil for the purposes of agriculture.

"The importance of the province has increased very rapidly. Previous to the last sixty years no cotton was exported; and I heard that, when the first parcel was about to be shipped, a petition was made by several of the inhabitants to the *Camara*, or municipality, requesting that the exportation might not be permitted; for, otherwise, they feared that there would be a want of the article, for the consumption of the country; this, of course, was not attended to; and now the number of bags, exported annually, is between forty and fifty thousand; averaging about 180 pounds weight each. The quantity of rice grown there is likewise great; but the sugar which is required for the consumption of the province is brought from the ports to the southward. Some sugar-cane has lately been planted, but hitherto molasses only have been made. I heard many persons say, that the lands are not adapted to the growth of the sugar-cane. The cotton and rice are brought to St. Luis in barks of about twenty-five or thirty tons burden. These come down the rivers, with the stream, from the plantations: their return is not, however, so easy, as they are obliged to be rowed or warped, but being then empty, or nearly so, the difficulty is not very great.

"Considerable quantities of manufactured goods have been sent out from Great Britain since the opening of the trade, as has been done to the other principal ports upon the coast; but a ready sale has not been found for them here to any great amount. The province of Maranham will not bear comparison with that of Pernambuco. It is still in an infant state; there still exists wild Indians, and the plantations upon the main land are in danger from their attacks. The proportion of free persons is much smaller; the slaves very much preponderate; but this class can, of necessity, use but little of what is in any degree expensive, of what in such a climate is mere luxury. There exists at St. Luis a great inequality of ranks; the chief riches of the place are in the hands of a few men, who possess landed property to a great extent, numerous gangs of slaves, and there are also merchants. The wealth of these persons, and the characters of some of the individuals who enjoy it, have raised them to great weight and consequence; and indeed one governor knows, to his cost, that, without their concurrence, it was useless to attempt the introduction of the innovations proposed, and impossible to trample long upon the rest of the community. But the great inequality of rank bespeaks the advancement of this place to have been less rapid than that of other settlements further south, where the society is more amalgamated, and property more divided. As a port of trade with Europe, St. Luis may be accounted the fourth establishment upon the

the coast of Brasil in point of importance, giving precedence to Rio de Janeiro, Bahia, and Pernambuco."

The town of ALCANTARA or ALCANTRA stands on the western bank of the Bay of St. Marcos. It has been described by Mr. Koster, who proceeded to it in a sailing-boat, from St. Luis. The beauties of the Bay, Mr. Koster says, are to be seen only in crossing it. The number of islands diversify the view every five minutes. There is but little water on the bar of Alcantra, and as much pilotage is necessary as with a large ship in proceeding to St. Luis. The town stands on a semi-circular hill, and at first sight from the port seems very pretty, but falls short of its promise on a nearer examination. Many of the houses are one story in height, and are built of stone; but the major part have a ground-floor only. It extends back to some distance, in a straggling manner, with gardens, &c., and is an improving place; the lands in the neighbourhood being in request for cotton-plantations. It has a stone quay, a town hall, prison, and several churches.

Not far from the mouth of the Port of Alcantra is an island, about three miles long and one broad, called the *Ilha do Livramento;* it is inhabited by one man and one woman, (1816,) who have under their care a chapel dedicated to our *Lady of Deliverance*, which is visited by the inhabitants of the neighbouring shore, once every year, for the purpose of celebrating, by a festival, this invocation of the Virgin.

MARANHAM TO PARA.

PARA or GRAND PARA is the northernmost province of Brasil, and is celebrated for its cotton, sugar, vanilla, chocolate, and coffee. The climate here is very sultry; the woods abound with valuable timber, of great solidity and beauty, and have trees that yield odorous balsams. The capital, on the eastern bank of a great river of the same name, is reputed to be rich and handsome. It has a college, and two parish-churches: being situate on an elevated rock, it commands all the adjacent country. The side towards the river is fortified with a number of gabions and large cannon: the other sides by a stone wall, about six feet high, and a dry ditch. The inhabitants are engaged, chiefly, in the cultivation and sale of cotton, sugar, and tobacco. Much of the cotton grows wild in the environs.

The coast, from the Bay of Maranham to Para, is generally low and sandy, and has many little isles, of the same description, with numerous coves and rivulets. Pimentel has described the whole, but his description is not adapted to the use of the modern navigator, unused to creep along the shore. Some of it may, however, be useful. A vessel, he says, bound from Maranham to Para, should take her departure in the morning, advance to the anchorage off the *Aracaji*, or cliff, already described, thence stand out to sea, to beyond the Shoals of Cuma, (or Carnaveros Banks,) which may be effected in a run of eight leagues. Having passed these, you approach the sand-bank stretching from the western shore, and over which there are 6, 10, 7, 6, 5, 7, and 8, fathoms. Thus, you may proceed to the N.N.W. or N.W. by N., to the distance of 22 leagues, when the ground of the bank, white sand with black specks, will be succeeded by coarse sand and stones, or brown sand and broken shells, with 13 to 17 and 20 fathoms of water.* Here you will be off the island of St. Joaõ, or St. John, and near the parallel of one degree south.

The island of St. Joao is nearly level with the sea, and about three leagues long, from E.N.E. to W.S.W. Between the N.E. end of this island and Point Turivazo to the W.N.W., the distance is about 9 leagues. The bay between affords shelter, and vessels may anchor on the N.W. side of St. John's Island, in from 6 to 4 fathoms, sandy ground.

At the distance of 18 leagues W.N.W. from Turivazo Point is CAPE GURUPI, over which is a mountain, insulated, and therefore remarkable. This mount is several leagues inland, and near it is another, somewhat smaller and rounder. The coast here, as in other parts, is, however, low, level, and sandy, covered with a dark brush-wood, and from the point a shoal, with breakers, extends three miles out to sea.

From CAPE GURUPI to the RIVER CAYTA, on the western bank of which is a small town of the same name, the distance is 24 leagues, on a course nearly west. At the entrance of this river, on the eastern side, are several low islets, of the same name. Off the shore, throughout this extent, the bottom is generally flat, and there is commonly 7 and 8 fathoms at three leagues off, with clear ground.

* According to a late survey.

From

From the CAYTA to the INLET of MARACUNO, the distance, W. by N., is 19½ leagues. In sailing along it is proper to keep two or three leagues off shore, in soundings of 7 and 8 fathoms. The coast here is distinguished by a range or chain of white sand-hills, the highest of which, *Piraussu Hill*, is about 3¼ leagues westward of Cayta Point, the western point of the mouth of the Cayta. Piraussu Hill appears like a high, bluff, and perpendicular point, close to the sea, with red cliffs on its eastern side.

At 5¼ leagues W. by N. from Piraussu Hill is *Point Atasia*, distinguished by a watch-tower, having a gun, which is occasionally fired when a vessel is approaching. On making this, and keeping a good look-out, the smoke may be seen. At this place are two eminences of white sand, and immediately west of the point is the Inlet or Bay of Maracuno, having 5 and 6 fathoms of water, and good ground.

RIO PARA.—POINT TIGIOCA, the eastern point of the mouth of the Para, is 9 leagues west from Atasia Point: and within this, at the distance of 7 miles to the S.W., is Point Tapua. Here an extensive bank extends two leagues from shore between the two points, and to the northward are the Tigioca shoals and breakers, the positions and nature of which can be understood only by reference to the Charts. The passage in is between these shoals, and has a depth of 12, 11, and 15, fathoms, at about 11 miles from the southern shore, in latitude 0° 23′ S. There is, also, a channel for small vessels, at 5 miles from shore, and along the edge of the *Baxo do Boronco*, the bank which extends from Point Tigioca, as already noticed.

From the mouth of the River, within Point Tigioca, the distance to the Basin, or anchorage of Para, is 20 leagues. All the western side of the river is shoal, but, on the eastern side, are even soundings of 8, 7, 8, 9, 10, 7, 10, 12, 9, 7, and 6, fathoms. In the Basin itself are from 5 to 3 fathoms.

A vessel direct from sea, with good observations, may cross the equator on the meridian of 45 degrees, where soundings, from 50 to 40 fathoms may be found. A course hence, W. by S. will lead towards Maracuno Inlet, on the east of which a pilot may be obtained. The soundings over the bank decrease gradually, from 40 to 15 fathoms: and it is to be observed that the flood-tide sets strongly to the west, while the winds are from the east.

The flood sets into the Rio Para at the rate of four miles an hour: the beginning from the eastward is very rapid, and it veers gradually to the N.E. and North. The vertical rise is 10 feet.

VESSELS OUTWARD BOUND, from Point Tapua, steer according to the tide, keeping that point S.E. to the distance of 15 or 16 miles. With Cape Magoary then in sight, haul up N.E. or N.N.E., taking care to avoid the Banks of St. Rosa, on the west. The wind here being generally from the eastward, with frequent squalls, great caution is required. In thick weather, when Cape Magoary cannot be seen, the approach to St. Rosa's Bank may be known by the soundings becoming irregular, which is not the case to the eastward of the channel. The weather-shoals should be kept on board as much as possible.

THE EASTERN COAST OF BRASIL, FROM CAPE ST. ROQUE TO PERNAMBUCO.

WE have already shown, in our former Work, the Memoir on the Atlantic, that ships bound to India, and not intending to make the Northern Coast of Brasil, have frequently and unintentionally made the land near Cape St. Roque; that some have unexpectedly found themselves to the westward of Fernando Noronha, and that others have actually been wrecked on the Roccas, or Low Kays, situate at three-quarters of a degree to the westward of that island. Of all these, the reckonings had been deranged by the WESTERLY CURRENTS, which are found to prevail in this part of the ocean. That of the ship King George furnishes a memorable example; and its track is, therefore, exhibited on the Chart.

For the Winds on this Coast, see the present work, page 57. For the Tides, page 58. For the Currents, page 59. For the passage to Brasil, page 61. For the Island of Fernando Noronha, and the Roccas, pages 16, 17. The *exiles* of Noronha have been noticed by too mild a name. The inhabitants of that island being *criminals*, of the male sex only, and of the *worst description*, under the control of a Portuguese garrison, which is relieved yearly. No ship should touch here unless compelled by imperious necessity.

The

The Coast from Cape St. Roque to Point Petetinga, and thence to the westward, having been described in the last preceding section, we shall now proceed from the same cape, southward, to Pernambuco.

The first port of any consequence to the southward of Cape St. Roque is that called the Rio Grande do Norte, on the south bank of which is the city of Natal: the channel to this river is bounded by extensive reefs, both on the north and south, but especially on the former. This river, the *Pontangi* of the Indians, is rapid. At its entrance, on the south side, is a flat rock, having a fort on it, called the *Fort dos Reys Magos*, which is insulated at high water. There is anchoring ground between the reefs, opposite to this fort, with 3½ and 4 fathoms. Seaward, from the reef on the northern side, are some shoals above water, which extend a league to the northward.

"A foreigner," says Mr. Koster, "who might chance to land first at the city of Natal, on his arrival upon the coast of Brasil, would form a very poor opinion of the state of the population of the country; for, if places like this are called cities, what must the towns and villages be; but such a judgement would not prove correct; for many villages, even of Brasil, surpass this city: the rank must have been given to it, not from what it was or is, but from the expectation of what it might be at some future period. The settlement upon rising ground, rather removed from the river, is properly the city, as the parish-church is there: it consists of a square, with houses on each side, having a ground-floor only; the churches, of which there are three, the palace, town-hall, and prison. Three streets lead from it, which have, also, a few houses on each side. No part of the city is paved, although the sand is deep; on this account, indeed, a few of the inhabitants have raised a foot-path of bricks before their own houses. The place may contain 600 or 700 persons.

"The lower town is situated on the bank of the river; the houses stand along the southern bank, and there is only the usual width of a street between them and the river. This place may contain from 200 to 300 inhabitants, and here live the men of trade of Rio Grande. The bar of the river is very narrow, but is sufficiently deep to admit vessels of 150 tons. The northern bank projects considerably, and from this reason it is necessary that a ship should make for it from the southward. The entrance to the reef of rocks, which lies at some distance from the shore, also requires to be known, so that altogether the port is a difficult one. The river is very safe, when once within the bar; the water is deep, and quite still, and two vessels might swing in its breadth; but it soon becomes shallow, and in the course of a few miles is greatly diminished. I should imagine that six or seven vessels might swing altogether in the harbour. The bars of rivers that are formed, as in this case, of sand, are, however, not to be trusted to, without good pilots, as they soon change their depth, and even their situation. When the tide enters, the northern bank is overflowed about one mile from the mouth of the harbour, and spreads over a considerable extent of ground, which, even during the ebb, is always wet and muddy, but never becomes sufficiently deep to prevent passing. A new road has been raised over this piece of land, which is about one mile in length. The captaincy of Rio Grande is subject to the Governor of Pernambuco."

From the Rio Grande to Ponta Negra, (or Black Point,) the coast is lined with reefs. The latter point forms a little bay, which is accessible by the coasters or small vessels only.

Bahia Formosa, (or Fair Bay,) is nearly two leagues in extent, from north to south, and has, in the middle, 4 fathoms at low water; but, having much foul ground, with some rocks, and open to the sea, it is no safe anchorage.

The Ponta da Pipa, between Bahia Formosa and Ponta Negra, takes its name from the shape of a wine-pipe. It is a rock on the point of land, upon which the sea breaks.

BAHIA TRAIZAO, or Treason Bay, in the parallel of 6° 25′ S. is a considerable bay, and the best on a great extent of coast. It is in form of a half-moon, from the S.E. point of which, to nearly its centre, extends a ledge of reefs above water, which, however, present three openings, or entrances. Of these, that to the left or southward, has not, at its mouth, more than a fathom and a half of water. The other entrances are capable of admitting large ships. The central one has 4½ and 5 fathoms of water, and its breadth, between the end of the reef and a rock called the Picao, is 120 fathoms. The third, which is the largest, and lies to the N.W. of the others, is half a league in breadth, and both at its entrance, as well as within, has 4½, 5, and 6, fathoms; and it can therefore admit fifty ships at a time.

Within

Within the bay, and immediately fronting a river which falls into it, is a head of sand, at a cable's length from shore. The bay, likewise, is divided into two parts by a shoal, which extends from the land to the reef, and terminates on one side of the small or S.E. entrance.

The River Mamanguape, in latitude 6° 34′, has its channel impeded by reefs, covered with breakers, which leave only one small narrow opening of 3 fathoms, immediately opposite to the river. Within these reefs, and lying across the mouth of the river, is a small island, covered with mangoes; but between it and the reefs, a vessel may lie in water as smooth as a mill-pond.

RIO PARAIBA (pronounced Parahiba).—This river, the largest in the neighbourhood, is a place of considerable trade. Its entrance may easily be found from Cape Ledo, which lies to the southward. The position of the latter, as given in the Tables, from the lunar and chronometric observations made in several English East-India ships, is lat. 6° 50′ S., and long. 35° 7′ W.

On the bar of the Paraiba are 2½ fathoms at low water. Extensive reefs bound the entrance both on the North and South, and between are 7½, 7, 6, 5, and 4, fathoms. The mouth of the river is protected by a fort, on the south point. The city is situated at more than three leagues up the river.

The town of Paraiba contains from 2000 to 3000 inhabitants. The principal street is broad and paved. The houses are mostly of one story, with the ground-floors as shops, and some have glass-windows. Here are six churches and some convents, with several public fountains. The prospects from the windows present the finest Brasilian scenery; extensive and evergreen woods, bounded by a range of hills, and watered by several branches of the river, with here and there a white-washed cottage upon their banks, half concealed by lofty trees.

The lower town consists of small houses, and is situated upon the borders of a spacious basin or lake, formed by the junction of three rivers, which from hence discharge their waters into the sea, by one considerable stream. The banks of the basin are covered with mangroves, as in all the salt-water rivers of this country.

The trade of Paraiba is inconsiderable, although the river admits vessels of 150 tons. Within the basin the water is perfectly smooth and still. The lands of this captaincy are rich and fertile, and the sugar is considered as equal to the best in any part of Brasil.

At about three leagues to the southward of Cape Ledo, is Cabo Branco, or the White Cape, having some cliffs on its northern side, from which shoals extend a league and a half to seaward. Pimentel directs ships that come from sea, for Paraiba, to make this cape, and proceed thence to the river, by carefully shaping such courses as will lead clear of the reefs.

The PORTO DOS FRANCEZES (Port of the French) lies four leagues to the southward of Cabo Branco. Off the coast between is nearly one continued reef; having, however, one opening, nearly in the middle, with 4 fathoms, called Pedra Furada or the Bored Rock. This port may be easily known from its being surrounded by cliffs about forty feet high, and overhanging the beach. The harbour will contain twelve ships, but its ground is very bad.

Rio Capibarim.—The bar or mouth of this river lies between the two points named Coqueiros, or Coco-tree Point, and Pedras or Rock Point. The reefs without extend to the distance of a league from land. Pimentel says that vessels of forty tons proceed up the river to the town of S. Miguel de Goyana, which is situate seven leagues up, from the bar.

ITAMARACA.—This island, lying parallel with the coast of the main, is about eight miles in length from North to South. At its north end is a shallow and difficult channel, called the Barra or Entrance of Catuama, which admits nothing larger than boats and small craft, although in some part there is more than 3 fathoms at high water. At the south end vessels of 300 tons may enter, on a W.S.W. course, between the reefs which extend outward 2½ leagues; but it must be with a fair or leading wind, as there is not sufficient space for tacking. In the channel, at low water spring-tides, there is a depth of 3 fathoms, and the tide rises 9 feet. The river, in the narrowest part, is a musket-shot in breadth; and, at this narrowest part, has a bank, which has a depth of 2½ fathoms

thoms over it, at low water spring-tides. Immediately above this bank is deep water, and so smooth that a ship may ride with any sort of cable. To this anchoring-place from the bar, the distance may be about a league.

Itamaraca has been fully and pleasingly described by Mr. Koster.* This is one of the oldest settlements of the Portuguese upon the coast, and was given to Pero Lopez de Souza, who took possession of it in 1531. In the year 1630, it had twenty-three sugar-works upon it; but, as a commercial station, it has fallen into insignificance. The island, however, is still populous, and has several pleasant villages, the inhabitants of which live much more happily than a stranger would readily imagine. The shores are planted with coco-trees, among which are thickly scattered the straw-cottages of fishermen: in some spots may be seen respectable white-washed dwellings, and there are salt-works on the island, which are one great source of its wealth; these are formed upon sands, which are overflowed by the tide at high water.

Mr. Koster says the harbour is good, and the entrance to it commanded by an old fort, which is much out of repair; the garrison is scanty, and without discipline. The entrance to the port is formed by an opening in the reef. It is readily discovered from sea, being immediately opposite to the channel or river into which it leads, and as there are breakers both to the northward and southward. Having entered, some small breakers will be seen a-head, or rather towards the south side of the channel, unless the tide is out, and then the water is quite still. The anchoring ground is opposite to the fort, and on the outside of it; but opposite to the village of Conception (*N. Sa. da Conceicao,*) which is farther in than the fort, there is considerable depth of water. Some parts of the ground are rocky, but others good.

Itamaraca has improved greatly under the auspices of a respected vicar, Pedro de Souza Tenorio, and a happy change has lately appeared in society under his charge. When the people of colour now go to mass, if the family be in a respectable way of life, the younger females wear gowns of printed cotton, English straw bonnets, stockings also of foreign manufacture, and neat shoes made by the workmen of the country. The young men appear in nankeen pantaloons, and jackets of printed cotton, shirts of cambric muslin, hats of English make, stockings, and shoes. "Indeed of late years, since articles of dress have been cheap, and have come into general use; since a subject of emulation has arisen, and the means of showing it has been afforded, every hamlet sends forth its rival belles and beaux."

PAO AMARELLO.—The bar of Pao Amarello, or Yellow-wood River, is in the latitude of 7° 51′. There is a depth of 3 fathoms near the entrance, but it is a spot of difficult access, lying between the reef and the land; and is unsafe, because the channel is so narrow that it is necessary to ride with one anchor on the reef, and the other on shore, to prevent the ship's swinging with the tide.

At three leagues to the southward from Pao Amarello, is the Point of Olinda, in the parallel of 8° South. The navigation of the coast between is impeded by extensive reefs, as shown on the Chart. Ships coming from the northward should, in passing the Point of Olinda, give it a berth of at least three miles, keeping in 10 fathoms; for within that distance the soundings may become irregular, and the reef in many parts is steep-to.

PERNAMBUCO *and* OLINDA.

The best idea of the Road and Harbour of Pernambuco, with the coast of Olinda, may be gained from a reference to the survey of Lieutenant Howett, from whose pen have issued the following description and directions.

The Cities of Pernambuco and Olinda are the principal places of trade on the Brasilian Coast, next to Rio de Janeiro and Bahia. The land in the vicinity is fertile and well cultivated; producing, principally, sugar and cotton. It is not of that elevated and grand description as the land about Rio, hereafter described, but it affords the most pleasing prospects, from the richness of its plains, and the numerous seats scattered in every direction.

* Those who wish for a copious and correct description of Northern Brasil, may be amply satisfied by the perusal of the two volumes by Mr. Koster, published by Messrs. Longman and Co. London, 1817.

PERNAM-

PERNAMBUCO.—The RECIFE, or REEF, of Pernambuco, which forms the harbour, runs in a parallel line with the shore, at about a musket's shot distance from Coco-nut Island, to the southward, to abreast of Fort Bruno to the northward. On the extremity of the latter is a small octagonal tower, called PICAO, and mounting seven guns: this tower assists Fort Bruno in commanding the immediate entrance to the harbour. Between the Picao and Fort Bruno is the harbour-bar, the greatest depth on which, at low water, is 10 feet, and is formed by an accumulation of sand, washed through a natural break in the reef, at a short distance from the Picao tower. This break has been frequently filled up by the Portuguese; but all their efforts to exclude the sand totally have hitherto proved ineffectual; so that the water on the bar gradually decreases in its depth; and the inhabitants, in consequence, are under the greatest apprehensions of the harbour's being, in time, choked up.

'Large ships discharge and take in their cargoes in a basin immediately at the head of the reef, and outside the harbour. The entrance to the latter is between some detached sunken rocks, apparently a continuation of the reef, called the GREAT BAR. It has on it 17 feet of water, which increases to 20 within, where the vessels moor. The inner, northern, and southern, sides, are formed by the gradual decrease of depth towards the shore, and are sandy.

Small vessels run over the Bar of Picao, called also the LITTLE BAR, which has 12 feet on it: The marks for it are, the two turrets of the southern angles of Fort Bruno in one. Over one or the other of the two bars, described, all vessels must pass to go into the harbour.

At the distance of a mile and a quarter E. by N. from the Picao tower, lies the body of ENGLISHMAN'S BANK, in length, from north to south, three-quarters of a mile, and in breadth, from east to west, half a mile. The shoalest water on this bank is 2 fathoms; the bottom is excessively rocky, as well as its neighbourhood. The marks for it are, a large coco-nut tree, distinguishable from all parts of the bay, and situated between the two most elevated houses on the hill above OLINDA, in one with a kind of jetty on the beach immediately under that town. The cross bearings for the southern extremity must be taken by the compass, the Picao tower due west.

Between this bank and the Basin, or Well, is a passage of 5 fathoms.

In the offing, the bottom is composed of fine white sand; but, nearer the coast, numerous patches of coral are interspersed, dangerous to cables. The best anchorage, for men of war, is with Olinda North, and the Picao tower N.W., in 6 fathoms; as this is the only spot in the bay, near the town of Pernambuco, where they can lie, without the danger of parting in the space of three or four days.

Ships from the northward, on sailing in, should give Olinda Point an offing of three miles; never decreasing the depth to less than 10 fathoms; for, within that depth, the irregularity of the soundings may become alarming to a stranger. When abreast of Olinda, with the offing described, a S.W. course will reach the anchorage, clearing Englishman's Bank about a mile, and gradually altering the depth to 6, 8, 7, and 6, fathoms.

Pimentel's Chart of Pernambuco is exceedingly incorrect, both in soundings and delineation. On making our observations, the openness of the place eluded suspicion, and we were enabled to pursue our operations without the risk of detection. The shortness of our stay has, however, occasioned a deficiency of soundings to the southward; but to the northward of Coco-nut Island, they may be considered as tolerably complete. It is necessary, from this deficiency of soundings, to observe that, in standing towards the town from the southward, Olinda Point should not be brought to bear to the eastward of North, until the Picao tower bears N.W. by N.: by this observance you will avoid closing the southern part of the reef, near which are several overfalls, with only 4 fathoms on them, rendered dangerous from the swell sometimes setting over them.

CAPE ST. AUGUSTIN is a high, rugged, and projecting, promontory, in latitude 8° 23′ S., which may be more readily known by its red cliffs, with a church and barn on its summit. It has, also, on its S.E. extremity, a fort mounting five guns, which is difficult to be distinguished at any considerable distance.

By giving Cape St. Augustin an offing of six or seven miles, when bound to Pernambuco from the southward, and steering a N. by E. course, you will soon gain a sight of the city of OLINDA a-head, situated on the northern extremity of the bight which contains the HARBOUR and ROAD of PERNAMBUCO. The city stands, principally, on the southern

southern declivity of a pleasant hill; and, when the highest buildings are well in sight, Pernambuco will be discovered to the southward of them; the scite being low and sandy.

DESCRIPTION *of the* INTERIOR *of* PERNAMBUCO, *&c.**

Pernambuco contains 60,000 people, and it carries on a great foreign and domestic trade. The coast near it is very low, and the country well clothed with woods, in perpetual verdure, which, contrasted with the white cottages scattered along the shore, the Indians fishing in their jangadas or canoes, and the beautiful serene sky, affords to the European, as he approaches it, a most pleasing prospect.

The town stands on two islands, upon a great extent of ground, and many of the houses are well built, chiefly of stone. The streets are wide and spacious, the churches are truly magnificent, and the images they contain are immensely valuable. It is supposed that the religious form one-eighth of the population; and of the continual crowd passing through the streets, they make no small portion. These people are dressed according to the order they profess, whether Carthusians, Gray Friars, or whatever it may be.

Nearly one-half of the inhabitants are slaves, who are, in general, humanely treated, and make good and faithful servants.

The two islands on which the town is built are connected by two bridges, one of which is a most beautiful structure, constructed by the Dutch, when they took this place from the Portuguese, in 1670. It consists of fifteen arches, under which runs a strong and rapid river, that comes many hundred miles down the country. On each side of this bridge are shops full of European merchandise, particularly English manufactures, or, as they are called by the Portuguese, "*facendas inglesas.*" It is in the middle only that a person finds he is on a bridge; he there beholds an opening, which, during the day, is often full of passengers, enjoying the cool refreshing breeze that comes down the river, and gratifying themselves with the prospect, which, from this spot, is truly delightful. The river is seen winding up as far as Olinda, which is seated on a hill; on either bank, beautiful white cottages, intermixed with mangrove and coco-trees and fruitful vineyards; the Indians paddling down the river with their unwieldy canoes, the fishermen on the beach drying their nets, and nature displaying her gayest verdure, form altogether a *coup d'œil*, which it is impossible to describe. The other bridge is a very long wooden one, in which there is nothing remarkable, more than its being quite open to the breeze which comes down the river. It is, on that account, much resorted to in the evening, especially by the English, who, seated on each side, often amuse themselves by criticising, with the characteristic liberty of their country, the numerous passengers.

Most of the houses in Pernambuco are lofty, and, instead of glass windows, have green lattices, which have a pretty effect, especially as all their houses are white, and frequently surrounded with beautiful evergreens. All these windows are prominent, not unlike the Elizabethan windows seen in some of our old country towns. During the morning many of the inhabitants are seen leaning out of them, muffled up in their long cloaks, and exhibiting a genuine picture of indolence. The ladies are seen towards the evening only, peeping through the lattices; very few appearing in the streets, and then closely veiled, and in a kind of hammock, with curtains, carried by two slaves on a long pole.

Here are many good coffee-houses, which are known by a small round board, with *Casa de Caffé* written upon it. The principal one is kept by a priest, and is the common resort of all the merchants, serving them as an Exchange. Good wine, sangaree, and a tolerable breakfast, can be procured here at all hours of the day. Here is also a billiard-table and several back-gammon tables, much frequented, especially on a Sunday, the day on which these amusements are mostly practised. At about eleven in the morning, the merchants make a tolerable show at this place, and much business is transacted.

During the late residence of the King in Brasil, the trade increased greatly. Before this period it was carried on with Europe in large ships, similar to our East Indiamen; but it is now open to all nations. The Portuguese merchants are, in general, rich and respectable.

* Written, mostly, in the year 1811.

The harbour of Pernambuco is wonderfully convenient. It is formed by a natural pier, extending five miles in a direct line. This is a coral reef, so exactly strait and even, that one would almost imagine it the work of art. The vessels lie along-side each other in tiers, moored head and stern, at about half pistol-shot from the shore, and close to this reef, which, at high water spring-tides, is nearly on a level with the surface of the sea, and forms an excellent barrier.

At Pernambuco the heat is excessive, the thermometer frequently being at 90° in the shade. During the night it is always calm, with much lightning. At about nine in the morning the sea-breeze comes gradually, and is strongest about noon, when, by degrees, it dies away into a calm, that generally takes place towards sun-set.

The port is very well fortified in appearance, but it would make a poor resistance in case of attack. All vessels, on arriving in the harbour, are obliged to land their powder, which is conveyed by proper officers to a magazine, and returned on departure: but, while deposited, it is in general well tithed. The government raise about 5000 military here, comprising the militia; of these the greater part are blacks. The governor lives in great state.

Great numbers of the religious orders are always seen in the streets, dressed in their robes, soliciting alms, for which purpose they carry a small square box, with the figure of Christ or of some saint painted upon it. It is to be observed that, although they consider the English as heretics, they do not scruple to receive their money; for which they bestow, in return, a benediction.

In every street there are different images of the virgin and saints, which, on particular days, are exposed to view, superbly illuminated with a number of large candles. At about eight in the evening, the children in the neighbourhood assemble around them, and sing hymns. This has a pleasing effect, especially as they keep time with great exactness, and have a person to direct them by the ringing of a little bell. To a stranger, another custom appears very singular: twice every day, at about ten in the morning and seven in the evening, at the tolling of a bell, every thing is, in an instant, at a stand. Men, women, and children, whether in the streets or in the houses, instantly pull off their hats, cross themselves, and say a short prayer. This continues about a minute. At the second tolling every thing goes on again as usual. During this time a particular part of the mass is performing in the great church. The effect seems like that of magic.

The season of Lent is most rigidly observed, and that of Easter affords a perfect contrast. The religious procession, which takes place in the latter, with the illuminations, fire-works, &c., greatly surpass all that a native of Britain may conceive. Such shows are frequently repeated, and make a wonderful impression on the lower classes, especially on the slaves.

As Pernambuco is seated on very low ground, and quite surrounded by water, intermittent fevers are very common. There is only one hospital, which consists of a very large room, with about thirty beds on each side, filled with wretches suffering under the most loathsome diseases. A man stands at the door to solicit the charity of passengers, which contributes to defray the expenses. When a patient dies, he is laid on a table at the entrance, with a plate on his breast, to receive money for his burial. Four or five are frequently thus exposed at once. Great numbers of slaves die of the small-pox, fever, and dysentery.

The country, at a few miles from the town, is covered with thick impenetrable woods, dreadfully infested with wild beasts and reptiles, especially snakes, whose bite is fatal. The *ignis fatuus* or jack-a-lantern is very common here. It is visible mostly at twilight in the evening, and more than thirty exhalations of light may sometimes be seen at once. To describe this phenomenon is difficult. It has been compared to the very large sparks which fly from the forge of a blacksmith. These luminations rise from the ground, and continue to float in the atmosphere, at the distance of eight or ten feet from the surface, for some minutes, when they totally disappear.

The most beautiful birds abound in the neighbourhood, some of which sing delightfully. Macaws and parrots are very common, nearly every house having one or two at the door; and, as they often set each other a chattering throughout a street, they make such a din, that an Englishman might imagine himself in a Welsh market.

The fishes on the coast are very numerous. The river near Pernambuco abounds with alligators, which are often very destructive; and that extraordinary fish the torpedo is frequently caught here. The electric power is so strong in this fish, that even the line which catches it conveys a slight shock. The blacks have a curious way of catching

catching fish, which is thus performed: on a dark night they go on jangadas, (a sort of canoe composed of three or four long pieces of wood, lashed together,) on which they make a large blazing fire, which instantly attracts the fish, when they strike them with harpoons. Most of the fish with which Pernambuco is supplied is caught in this manner.

The CITY of OLINDA, at the distance of three miles from Pernambuco, is situate on a small hill, the summit of which is distinguished by a large monastery. The town is small; and, though most of the merchants of Pernambuco have seats here, it is very thinly peopled. The houses are beautiful white buildings, interspersed with delightful gardens; rising as they do, one above another, on the side of a hill, they are seen a great way off at sea. The great trade, and other advantages of Pernambuco, have drawn all the merchants from Olinda, and it now contains little more than two monasteries and a nunnery, with a few people dependent on them. One cannot imagine a more romantic situation, or one which commands a more lovely prospect than that of the monastery on the hill, especially of the church, which is the highest object on the coast, and therefore visible a long way off at sea.

The Portuguese character is generally known: the majority here are honest, well-behaved, and much attached to the English; but they are passionate in the extreme, and murders, the consequence, are very common. The criminal most frequently escapes with impunity, because it is too expensive for any one, excepting the opulent, to bring him to justice, and, if he has taken sanctuary, it is of no use to attempt it. The people, in general, are sober and tolerably industrious. Their seamen are good and faithful.

Mr. Koster has said of Pernambuco, that the land is low, and consequently not to be seen at any considerable distance; "but, as we approached it, we distinguished the hill upon which stands the city of Olinda, a little to the northward; and, some leagues to the southward, the Cape of S. Agostinho; a nearer view discovered to us the town of *St. Antonio de Recife** almost a-head, with the shipping in front of it; the dreary land between it and Olinda, which is one league distant, and coco-groves northward, as far as the eye can reach: southward of the town are also seen great numbers of coco (not *cacao*) trees, woods, and scattered cottages. The situation of Olinda is the highest in the neighbourhood; and, though not very high, is still not despicable. Its appearance from the sea is most delightful; its white-washed churches and convents upon the tops and sides of the hill; its gardens and trees, interspersed among the houses, afford a promise of great extent, and hold out expectations of great beauty.

"A large row-boat at last made its appearance, doubling the end of the reef near the small fort, which was declared to be that which brings off the pilots. The *patram-mor*, harbour-master, in his naval uniform, likewise came on board. A large launch followed the pilot, manned chiefly by negroes, almost naked: the colour of these men, the state in which they were, their noise and bustle, when certainly there was no occasion for it, and their awkwardness, were to me all new.

"The pilot placed himself near to the ship's windlass; a Portuguese sailor was sent to take the helm, but still the vociferation was extreme; the man seemed to think that, by speaking very loud, he should make the English seamen understand his language; and, what with his bawling to them and to his own people, and their noise, the confusion was excessive; however, we doubled the fort in safety, and came to anchor in the upper harbour."

PERNAMBUCO *to* BAHIA, *or the* BAY *of* ALL SAINTS, INCLUSIVE.

CAPE ST. AUGUSTIN, with its red cliffs, church, barn, and fort, have been already noticed in page 160. In the Bay of Gaybu, to the northward of this cape, there is anchorage within musket-shot of the shore, having a passage to it formed by the reefs.

From CAPE ST. AUGUSTIN, southward, to the RIO de ALAGOAS, in a distance of more than two degrees, the coast continues to be fronted by numerous reefs, but none of them

* The outer portion of the city of Pernambuco. The middle part is called *Santo-Antonio*, and the interior or western part, *Boa-vista*.

appear

appear to extend more than two leagues from the shore, and without them are gradual soundings to the same or a greater distance. In coasting along, there may be found, in 15 or 16 fathoms, good anchoring ground, of white sand; the same ground may be found in 8 fathoms; but, in a less depth, the bottom is, generally, of rock and shells.

The POINT of MERACAHIPE, 3½ leagues to the southward of Cape St. Augustin, is level with the sea, covered with wood, and, at a distance, appears inundated. When directly East from this point, you will, however, see an inland ridge of high ground, extending North and South, which has a break or dip in the middle, dividing into two round hills, called Serra Sellada, or Saddle-bow Hill, from its resemblance to a saddle. This saddle stands due West from the Point of Meracahipe, and in all the country hereabout a similar mountain is not to be seen; nor one so high, all others being level, and covered with low brushwood. When to the east of Cape St. Augustin, this mount may be seen, bearing S.W. From this cape to Meracahipe, the land is low, level, and covered with brushwood. The coast has a white sandy beach.

PORT GALLINHAS, to the northward of Meracahipe, admits boats only.

The ISLAND of St. ALEIXO, two leagues to the southward of Meracahipe Point, has an open anchorage on the South, in 5 fathoms. On its west side is a channel half a league in breadth, with 4 and 5 fathoms; but on that side there is a rock, close to the island. There is anchorage, likewise, on the north of the island, at the distance of a musket-shot.

The PA'o de GAMELLA, to the S.W. of St. Aleixo, is formed by the reefs, some of which, like that of Pernambuco, rise like a wall from the bottom of the sea: some are above water, others below it; and they are, in some places, nearly a league from the shore.

TAMANDARE.—The Bar of TAMANDARE lies in about 8° 55′ S., and protects the most beautiful bay of this coast. It is capable of containing a large fleet, has good anchorage, with 6 or 7 fathoms at the entrance, and 4 or 5 within. The shore is defended by a fort and several batteries.

PORTO CALVO.—The next port southward, of any consequence, is PORTO CALVO, in about 9° 24′ S. It is small, but will admit vessels of 120 tons, and may contain six of that description. Along the coast, at the distance of about half a league, is a ledge of reefs, having an interval which constitutes the entrance, and which has a depth of 5 and 6 fathoms. Within is a depth of 3 and 4 fathoms. Strangers must cautiously proceed with the lead, and will find, when within, that the water is smooth, with bottom of sand.

The name of BARRA GRANDE, given to an inlet situate to the N.E. of Porto Calvo, as shown on the Chart, may induce a stranger to suppose that it is a fine harbour. We have, therefore, to notice, that it has only 3 fathoms, with reefs to seaward, and a flat rock, covered with water. Its distinguishing mark is, the high land of St. Bento, on the south side, and above the church of St. Bento.

From PORTO CALVO to the RIO CAMARAGIBE; three leagues to the S.W., the land is level, with low brush-wood; the reefs half a league from the coast; the beach of white sand. On the south side of the Camaragibe, stretching along shore, is a range of bare hills or cliffs of red sand. This river, that called St. Antonio Grande, and a following one, St. Antonio-merim, admit boats only.

Near the river St. Antonio-merim (or Little St. Antonio) is a range of red cliffs, half a league in length, and three small round hills, which stand on its northern side.

The RIO DE ALAGOAS, in lat. 9° 53′, admits small craft only: but, at two leagues to the N.E. of it, Iaraguá Point, with the reefs, form two capacious bays, in one or other of which large ships may, in almost all weather, find shelter.

The little RIVER CURUIPE, at nearly 12 leagues to the southward of the River Alagoas, is nearly dry at low water. Opposite to it are the shoals called the BAXOS DE DIEGO RODRIGUES, or Rodrigo's Shoals, extending North and South, with a channel between them and the shore.

The RIO SAN FRANCISCO is a broad and rapid river, but shallow, especially at its entrance. Pimentel says that, it is subject to great inundations in the months between

tween September and March, and that, during this season, its current is so strong that it cannot be stemmed by an eight-oared barge. Small craft only can enter it, partly owing to the rapidity of its stream, and partly to the shoals at its mouth. The principal channel is on the north side of the middle bank. It is, however, to be observed that, on the south side of the entrance, the Isle of Passaros has a channel between it and the main, called the Rio Guaratuba, at the entrance of which are two fathoms of water; and, in fair weather, it is easier to enter the Rio St. Francisco by this channel than by the former, it having less current.

VASABARRIS BAY.—This is the great bay between the Rio San Francisco and the Rio de Sergipe. In all seasons the sea rolls in here very furiously, but more particularly when the wind sets on the coast. Many ships have been lost here; and, as it is so dangerous, all who pass should keep off to a great distance.

Of the Rio Sergipe, the bar is passable by small craft only; and, although there is a channel, it should not be attempted by any who are not well acquainted with it.

The Rio Real proceeds, in a long course, from the interior, and inland is divided into many branches, but its bar is practicable by small craft only, and a strong current runs over it from the river.

Between the RIO REAL and BAHIA, or All Saints' Bay, there is little worthy of notice. Along the greater part of the coast are reefs of rocks, and a strand of white sand. The most remarkable object is the tower of Garcia da Vila, situated about 15 leagues to the N.E. from the entrance of Bahia. Near this tower is a little bay, in which small craft may anchor. At the distance of a league from this tower, are 9 and 10 fathoms of water; and, at four leagues, are 50 fathoms.

BAHIA, *or* BAY *of* ALL SAINTS.

DESCRIPTION of the Bay, Town, &c.—The entrance of the Bay of All Saints is formed, on the west, by the Island Taporica or Itaporica, and on the east by a peninsula, on which stands the City of St. Salvador or of Bahia. Within it the land forms an extensive gulf, or inland sea, which receives the waters of several large rivers. The entrance of the bay is seven miles broad, and the gulf within more than 32 leagues in circumference.

The situation of Bahia may be instantaneously understood by reference to the Chart of the harbour, which exhibits the anchorage, &c. Here vessels, riding on clear ground, may be sheltered from every wind, and surrounded by a country exuberantly rich, in a gulf which seems as if formed by nature for the emporium of the universe.*

At the entrance, on the eastern side, the land, at a short distance from shore, rises steeply to a high ridgy hill, on the summit of which is the city, with the exception of a single street that ranges parallel with the beach. It occupies a considerable space; being situated on unequal ground, and interspersed with plantations. Many of the buildings are old and ill constructed, but, as in other catholic cities, the churches are distinguished above all other edifices. The cathedral is large, but falling into ruin; while the college and archiepiscopal palace, or house, adjoining are kept in thorough repair. They were all, at the period of their erection, spacious buildings, and have a proud station on the summit of the hill, commanding the bay and surrounding country. The grand church of the ex-jesuits is, by far, the most elegant structure of the city. It is composed entirely of European marble, imported for the purpose at an immense cost. The college and monastery adjoining to it, which were the most extensive and best endowed of any in Brasil, having for the last forty years being entirely unoccupied, government has converted them into a commodious hospital.

Among the parochial churches, those of the Concession, Pillar, and St. Peter, are the most distinguished within the city, and those of St. Antonio and Victoria near the bar, which stand in such striking situations as to form excellent sea-marks.

The streets are confined and narrow, wretchedly paved, never cleaned, and therefore disgustingly dirty. The backs of several of them are the receptacles of filth, which, exposed to so extreme an heat, would severely affect the health of the inhabitants, but

* Lindley's Voyage to Brasil.—By this work we are also informed that the province of Bahia comprises fifty leagues of coast; and that, though one of the smallest Capitanias, or Provinces, of Brasil, it is the most fertile, populous, and luxuriant.

for

for the salubrious air that prevails, in consequence of the elevated situation of the place.

In the Royal Square is the house, or palace, of the governor, which is an old insignificant building: and opposite are the mint and public offices. The third side contains the court-house of the *relacao*, and the remaining one the hall of the senate and the prison. The latter is an extensive structure, of which the lower divisions are exceedingly strong and secure. Its dungeons are entered from a grated door above, by trap-doors. In the centre of the first story is a well-secured hall, out of which open a number of *secretos*, dark cells about six feet square, that have strong close doors, but no windows, and are provided each with a heavy chain, fastened to a ring in the wall. *These cells were constructed for inquisition and state criminals.*

The prison seldom contains less than two hundred persons, the greater part confined for offences disgraceful to society, and the rest runaway negroes and state victims. The latter have been too frequently placed there on the most trifling pretences. Water is the only article allowed by government to the prisoners; but a religious society, the *Misericordia*, (or Order of Mercy,) who solicit, in all parts of the city, charitable donations, daily distribute farinha, (or meal,) soup, and other provisions, to the most wretched of the immured.

The custom-house and wharfs are on the beach, as is the dock-yard. Near the latter are the marine store-houses and offices, with the house of the intendant, or port-commander.

A few of the superior class of inhabitants have large elegant mansions, appropriately fitted up, particularly in the vicinity of the town. The habitations of other opulent individuals are generally roomy and convenient, but shabbily furnished: from the street they have a dull and dirty appearance, which is completely realized within. The houses of tradesmen and shopkeepers are commonly disgustingly dirty: instead of glased windows, they have wooden drop-lattices, which want even the addition of paint to enliven or preserve them. The lowest order of soldiers, mulattoes, and negroes, have tiled cabins, without a ceiling, and with a single latticed window. These and other buildings, with the exception of a street or two, are all intermingled throughout the city.

The city is protected by a number of forts and batteries; but, with the exception of one of eighteen guns, the Fort of Saint Philip, and the Fort do Mar, they are inefficient. The principal defence is the Fort do Mar, which was erected about the year 1600, on a small rocky bank of the inner bay, about half a mile from the shore. It was first built in a circular form; but, when the Dutch entered the bay in 1624, they were so greatly annoyed by it, during their attempt to gain possession, that they thought it deserving of additional fortifications, and they completed it to the shape that it bears at present; raising the original tower, and surrounding it with an extensive lower battery. The diameter of the whole is about 270 feet, and that of the upper tower battery 100. The lower battery mounts twenty-nine guns, of which there are a few that are forty-two pounders, and none less than twenty-four; the upper contains only sixteen, consisting of twenty-four and eighteen pounders. The tower ascends from the level of the lower battery about twenty-five feet: it is not a solid mass, but has several apartments, which diverge like rays from the centre to the exterior, and are employed as magazines for powder, artillery-stores, &c., and for barracks. The top of the tower is paved with flag-stones, carefully cemented and sloped, to preserve the rain that falls on its surface, which, collecting in the centre, descends through a grate into an extensive reservoir below, and affords a sufficiency of water for the garrison for six months, without any other supply.

The house and offices of the commandant, and some rooms for state or military prisoners, are ranged on the lower battery, near the sloping entrance of the fort, on the side fronting the sea.

Shipping usually anchor between Fort do Mar and the city, as shown on the Chart of the harbour, where they are immediately under its protection and that of St. Philip on the opposite shore.

The small antique fort and lighthouse of Saint Antonio, are situated on the extreme point of the entrance on the eastern side.* The small bay and sandy beach within are

* The Fort do Mar repeats the signals of all vessels entering the port, which are first made at Fort St. Antonio. They are announced by a gun, with a tri-coloured jack for the three-masted vessels, a red one for brigs, and white for sumacks.

Ships, on arrival in the bay, (men of war excepted,) must deliver up all their gunpowder, to be deposited in the Fort do Mar, during their continuance in the harbour.

defended

defended by a small fort, that of Santa Maria, and the circular battery of St. Diego. At the extremity of the city that leads to the sea is an eighteen-gun battery of twenty-four pounders, which ranges at water-mark; passing this, the dock-yard is defended by the high bulwark battery of St. Philip, which mounts about thirty guns. There are three other insignificant batteries on the inhabited part of the beach, and a small one on the point of Montserrat. On the land side, the city is defended by three forts, &c.

At the royal dock-yard, ship-building proceeds very slowly, as it admits only one ship of the line at a time; but at the several private yards of Tapagippe, near the city, well-modelled merchant-ships of all dimensions are built, and with greater despatch.

In 1804, the inhabitants of the city and suburbs were estimated at upwards of 100,000; of whom 30,000 were whites, 30,000 mulattoes, and the rest negroes.

The government of Bahia is vested in the governor-general, who has a temporary control over all the tribunals and departments. The marine is immediately under the care of an intendant, appointed by the court of Portugal; and there is a senate, consisting of four members and a president, who regulate municipal concerns, weights and measures, &c. The grand court of justice is that of the *Relacao*, composed of the governor, as perpetual president; the chancellor, who is here his deputy; the minister of crimes; and nine subordinate judges. There is also an inferior court of audience for deciding trifling causes.

The revenues of government are derived, partly from the high duties on imports and exports, but principally from the diamond and gold mines, the monopoly of Brasil wood, tobacco, &c.

The commerce is very considerable, particularly with Lisbon and Oporto. The imports from Europe are wine, flour, bacalhao, butter, cheese, salt, &c. The exports, cotton, sugar, aqua-ardent, (a species of rum,) coffee, tobacco, lignum vitæ, mahogany, satin and tulip woods, gums, balsams, and medicinal roots. From Africa the Bahians receive wax and gold-dust, which are obtained in exchange for coarse printed cottons, spirits, and tobacco. The home or coasting trade of Bahia is likewise considerable and extensive; and, in that between it and Rio Grande de St. Pedro, about forty vessels of 250 tons each are engaged. These ships, as they arrive in Bahia, sell the jerked beef, which they bring, by retail. It is purchased, principally, by the lower class of inhabitants, and for the use of slaves and shipping. This method of disposing of the cargo sometimes detains a vessel five months in the port.

In the immediate confines of the bay, particularly inland, the trade is astonishing; and it has been said that more than 800 launches and sumacks, of different sizes, are thus constantly employed. Tobacco, cotton, and various drugs, are brought from the Cachoeira; a great assortment of common earthenware from the Iaguaripe; rum and whale-oil from the island Taporica; timber from the province of the Ilheos; farinha* and salt-fish from Porto-Seguro; cotton and maize from the Rivers Real and St. Francisco; and sugar, fire-wood, and vegetables, from all quarters.

Bahia, as well as Pernambuco, has a staple for cotton; and, on the importation of this article, in the launches and sumacks, the whole is landed at a warehouse appointed for the purpose, where it is weighed, sorted, and pressed. Its quality, first, second, or inferior, is marked on the bales, and then it is ready for exportation. In this general store it continues till disposed of by the owner, at the prices commonly fixed by the staplers. The aqua-ardent, or spirit, is controlled by an exclusive company, to whom every pipe that does not pass through its warehouses pays a duty increasing it to the price at which the company sells.

The general mode of conducting commerce has been by barter, notwithstanding the abundance of specie in circulation; and the inhabitants credit each other to a great extent; but, in their dealings, a mean and knavish cunning too frequently prevails, particularly when trading with strangers, of whom they will ask, for a commodity, double the price they will take, while they endeavour, by every artifice, to undervalue what they are to have in exchange.

At Bahia are many artificers; including lapidaries, jewellers, gold and silversmiths, &c. who are deficient only in fashion and taste: also tailors, shoe-makers, and tanners.

The chief town of the province, next to Bahia, is Cachoeira, situate at the distance of more than fourteen leagues to the N.W., in a delightful spot, on the banks of a

* Farinha is a sort of Cassaoa flour, prepared from the root of the shrub mandiock, as shown by Mr. Lindley. It is the bread of South-America. See Lindley's Voyage, pages 32, 3.

small

small river. It is the mart for the northern gold-mines and the produce of the surrounding cultivated interior. Iaguaripe, Amoro Jacobina, Do Sitio, and San Francisco, are all bustling towns of the province. The country, in general, is cultivated inland to a considerable distance, and is divided into very extensive plantations, many having 200 or 300 slaves, with horses in proportion, to work the engenios, or sugar-engines, except in those situated where water is introduced to set them in motion. The owners of these plantations have very handsome seats, with chapels adjoining, where they generally reside, except during the winter rains, when they repair, with their families, to their houses in the city.

Of meat, mutton, lamb, and veal, are nearly unknown, and never seen in the market. The beef is generally very lean, flabby, and tasteless.

In all the city there is scarcely any accommodation for strangers. As an inn is unknown, those who choose to live on shore must take the whole or part of a house, and furnish it. This, however, is easily done, as a few chairs, trunks, and a table, will be amply sufficient and in character. Eating-houses are distinguished by a tri-coloured flag over the door; but they are inconceivably dirty and disagreeable. The coffee-shops, which are numerous, are little better.

The city and country are alike very much infested with beggars; a subject of real or affected distress presenting itself every moment. Assemblages of these mendicants, to the amount of five hundred, may sometimes be seen at once.

Bahia has its comic theatre, which is little better than a barn, in a dirty situation. The actors, drama, and scenery, are equally despicable; the music being the only tolerable part of the performance. The chief amusements of the country are the feasts of the different saints, professions of nuns, sumptuous funerals, the holy or passion-week, &c., which are all celebrated in rotation with pompous ceremonies, concerts, and processions. Scarcely a day passes on which some one or other of these festivals does not occur, and thus is presented a continued round of opportunities for uniting devotion and pleasure, which is eagerly embraced, particularly by the ladies.

Bands of music frequently pass in large launches, playing in their way to the neighbouring villages on the bay, to commemorate the anniversary of some saint, or other festivity. It is also a custom with the Portuguese European ships to have music on arrival, at departure, and the first day of taking in cargo; which sounds charmingly from the water. The musicians are all black, and are trained by the barber-surgeons of the city, who are of the same colour, and have been itinerant musicians from time immemorial.

SAILING DIRECTIONS for BAHIA.—With the new Chart of the Harbour, and the preceding description of it, few directions are requisite. It will be observed that the Cape Fort of St. Antonio lies exactly in the parallel of 13°. Its longitude, according to the observations of Lieut. Hewett, has been already shown in page 10. With a fair wind, and Cape St. Antonio four or five miles distant, it may be brought to bear N. by E. ½ E., when the harbour will be open, and you steer directly in, on a N.N.E. direction, rounding the Fort do Mar, and a shoal bank without it,* and bringing up in the anchorage already described. Montserrat Point open, and bearing N.N.E., leads directly up the harbour.

Captain Horsburgh has said that, 'This port is sometimes visited by outward-bound East-India ships in want of refreshments; but its situation being in the middle of the S.E. trade, navigators are cautious of touching here, thinking [that] they may find it difficult to get to the south afterward, on account of adverse winds, said (in some old books) to blow along the coast from the southward from March to September; but the East-India ships have never found any difficulty in getting from this port to the southward, even in the most unfavourable months, June, July, and August; for the wind generally draws well to the eastward here, and more so as you proceed to the southward.'†

* This is a spot of very foul ground, about a mile long, from north to south, and half a mile broad. Its centre is about three quarters of a mile, W.N.W. ¾ W. from the Fort do Mar. On some parts are only 3½ fathoms, at three quarters ebb; on other parts are 10 fathoms; all rocky. There is good anchorage between the shoal and fort in 7 and 8 fathoms, and on the other sides in different depths.

† Compare with this the description of winds on pages 57, 58.

The

The old books alluded to above are, we presume, those of Pimentel, &c., which say that the monsoon, prevailing from March to August, blows from S.E., E.S.E., and S.S.E. Hence ships were directed to make the hill called the MORRO DE ST. PAULO, (in lat. 13° 26′,) and thence proceed to the north-eastward, for the bay. During the N.E. monsoon, said to prevail from September to March, land, on the contrary, was directed to be made in the parallel of 12°, or thereabout, where the land is distinguished by banks of white sand along the coast, appearing like linen hanging to dry.

BAHIA *to* PORTO-SEGURO *and the* ABROLHOS.

THE ISLAND of TAPORICA, opposite to St. Salvador, is enriched by numerous villages, delightfully situated. Its chief town is near the north end, defended by a strong fort, and has a brisk trade; it being the general mart of the island, and the rendezvous of all the launches passing through the inlets and creeks of this part of the bay. There are distilleries here, two churches, and an establishment for preparing oil from whales, which are frequently taken off the coast. Of the latter, many, at times, are seen, but few only are killed, in large boats, from the shore, to which the prizes are conveyed for boiling; but as the oil thus produced is by no means equal to the consumption, it is consequently dear.*

The channel between the Island Taporica and the main is navigated by small vessels, and a passage into All Saints Bay may thus be made, by the coasters, when the wind does not admit a direct passage to St. Salvador from the southward.

The MORRO DE ST. PAULO, in the parallel of 13° 26′, has been already noticed. (See above.) At a great distance it appears like a high bluff rugged hill; but, on approaching, is found to be covered with beautiful verdure, and on its extreme point stands a neglected fortification. Passing this, the land forms a small deep bay, the water of which is transparent, and as placid as a mill-pond.

The coast of the Island of St. Paul is bold; the town of this island is the capital of the presidio of St. Paul, but it is a miserable one, though delightfully situated. Here, also, is a fort and garrison.

The coast of Boypeda Island, southward of St. Paul's, is rocky and dangerous; particularly in the southern part, called the Morrera Reef. At three leagues from the latter are other dangerous reefs, which extend far out from Ponta dos Castellianos. From the wrecks which have occurred, Mr. Lindley advises that vessels passing should not approach the coast hereabout, within half a degree.

RIO CAMAMU.—The mouth of this river lies between Pt. Castellianos and a little island named Quiepe. There is a sufficient depth to admit large ships, but the passage within cannot be attempted by those unacquainted.

The land of the Camamu, to the southward of Castellianos Point, is covered with mangoes. Its termination may be known by a white rock *(Pedra Branca)* upon the south side of the Rio das Contas, a river accessible only by boats.

The ILHEOS are two remarkable isles, which lie off the mouth of the river bearing the same name, and which have a range of reefs to the southward athwart the mouth of that river. Hence vessels proceeding to the latter must round the northernmost island, (Ilha Verde,) off the western side of which they may anchor in 8 fathoms. The isles, at a distance, appear in the shape of cardinals' hats; one is covered with trees, and the other is bare. The Rio Ilheos is large, but divided inland into many small branches, on one of which is situated the town of St. George, which, immediately on entering the river, may be seen on the north side. On the bar is little more than 2 fathoms. The north point of the entrance is a high-land, called Ponta de Cao, or Dog's Nose, at the base of which are some rocks, over which the sea runs in breakers.

* Lindley's Narrative, page 141.

The COAST *and* HARBOURS *of* PORTO-SEGURO.

THE CAPITANIA or PROVINCE of PORTO-SEGURO is bounded on the north by the Rio Grande de Porto-Seguro, which divides it from the Capitania dos Ilheos, or Province of the Isles. On the coast to the southward of the Rio Patixa is BELMONTE, a new and thriving settlement; and, at some distance farther, are the town and district of Santa Cruz. The Rio Patixa has not been fully explored; and its banks, even near the entrance, are but thinly inhabited. On the bar is a depth of only 2 fathoms at high water. The country hereabout is covered with extensive forests, and the trees are considered as the best for ship-building in Brasil. Hence, therefore, the king's yards are chiefly supplied. Within the bar, the river is broad and deep, and continues so to some distance above it, classing in magnitude amongst the secondary rivers of the continent. The upper part of the river is said to be incalculably rich in natural productions, and abounding with articles of food, fruits, wild hogs and cattle, &c.

The harbour of SANTA CRUZ admits vessels of 12 feet. The Coroa Vermeil, immediately adjoining, to the southward, will admit ships of any burthen. The town is decayed and inconsiderable. Five leagues farther, still coasting southward, is PORTO-SEGURO.

The HARBOUR named PORTO-SEGURO is formed by a reef or ledge of rocks, that extend from a point of the main about a mile out, in a direction parallel with the land, forming a natural mole. These rocks are dry at low water, and terminate abruptly; appearing again faintly at the distance of half a mile: the space between is the entrance or bar of the harbour, over which there is a depth of 20 feet with high tides, but the depth within shoalens to 12 feet. The last may be considered as the average depth of the port. The bottom is of fine sand, gradually ascending to a broad beach.

On entering, the view of the country is delightful. Near the water's edge is a range of fishermen's cottages, shaded with waving coco in front, and each having its adjoining orange-ground. At the back of these cots the native underwood intrudes, and, intersected into numberless paths, forms evergreen-groves, full of birds of rich plumage, and some of song. To the northward, the land rises to a steep hill, which is ascended by a winding path, leading to the town, which stands upon its summit.

Of the town, the streets are sufficiently broad, straight, but irregularly disposed. The houses are generally of one story, low, and ill-built, of soft clay-bricks, cemented with the same, and plastered over. They are wholly destitute of glased windows, having only lattices of split cane, and appear dirty and wretched. About half a dozen are of two stories; the largest of which is a quadrangular town-house and a prison, the house of the civil governor, &c. The churches, of which there are two, have glased windows, and are, as usual in Brasil, the best buildings in the place.

On the banks of the river, below the town, stands a village of the same extent, containing about 400 cabins or cottages, and 3000 inhabitants, including slaves and Indians. These people are employed solely in the fishery about the isles and rocks called the Abrolhos. Fifty decked launches, or thereabout, are employed in this fishery, which keep the sea for a month or six weeks, until their cargoes are completed. The principal fish is a large one, of the salmon species, which is salted for the Bahia market.

Those who remain in town, and are not fishers, are employed in careening the launches, and making nets and lines. The latter are the best in the world; being composed of cotton well twisted, and then rubbed several times with the inner bark of a tree, which contains a glutinous resin that immediately hardens in the sun, and is proof against the effect of salt-water. These lines are thus peculiarly strong, and yet elastic. Of the launches and cargoes the property is confined to a few individuals, who are comparatively rich; receiving returns for their fish in cash and necessaries of food and clothing, which are sold again to such of their poorer dependants as can purchase, for the generality are unable. Happily for the latter, they live in a fine climate, wherein no extremes of heat or cold distress the human frame, and where they can exist almost without clothing. Although fresh fish may be obtained in great quantities on the coast, the people are too indolent to procure them, and this article is dear and scarce. The common food is salt-fish and farinha, (the latter is about 3*s.* 6*d.* per bushel,) with oranges, bananas, and cocos, which fruits are in such abundance that they bear no price. English vegetables are here exotics; potatoes and cabbages are scarcely known, onions are imported

imported from Europe or Bahia. Of beef only one beast is killed in a week, and that on Sunday: the prime quarters are then taken for the governor and officers of the town, and the remainder sold to the people.*

The principal inhabitants have each a country-farm, mostly situated on the banks of the river, to the distance of five leagues from the entrance, and extending to a village named Villa Verde. At these are plantations of sugar, with mandioc for farinha. Poultry and domestic cattle are plentiful, yet the general diet is much the same as that in town, and milk is totally unused. With cultivation and industry, all the blessings of nature would abound here; while from misrule, on the part of government, and indolence on that of individuals, the greater part of the people exist in want, poverty, and ignorance of the best enjoyments of human life. The climate cannot be admitted as an excuse for want of exertion, for many weeks are as moderate as an European September, and the winter months are generally so: even during the hot days there are intervals of cool breezes, besides some hours of every evening and morning during which the sun's rays have but little force, and the ground is cool from the excessive dews which fall here.

The inhabitants plume themselves on the circumstance of their's being the spot where Brasil was first discovered by Cabral, in March 1500, and they preserve, with great veneration, the holy cross that was erected under a spreading tree at the first high mass, with music, discharge of ordnance, &c.

To the southward of Porto-Seguro, beyond the chapel of Nossa Senhora da Judea,† is a small shallow bay, called that of Tranquoso. Here are several plantations, and the country appears delightful. Farther southward, as shown on the Chart, is the Rio dos Frados (River of the Fathers). The mouth of this is completely choked by a bar, and there is not a single plantation on its banks. To the south of this river the country is mountainous. Monte Pascoa or Mount Pasqual rears its circular white head, and is conspicuous to a great distance, serving as a pilot-mark in the dangerous navigation to the Rio Caravelhas; for all along the coast hereabout is an assemblage of reefs, sunken rocks, and shallows; yet the neighbouring pilots conduct vessels so skilfully through, that few accidents are known.

From the Rio dos Frados, southward, to the Villa Prado, situate at the entrance of the Rio Jacho, is a long range of neglected coast, intersected by several small rivers, and frequented by such numbers of hostile Indians, that travelling on the beach is exceedingly dangerous, and never attempted without a guard. PRADO (lat. 17° 20′) is a thriving fishing town, but it is exceeded by Alcoabass, which stands to the southward of Mount Pasqual. The people of the neighbourhood employ themselves exclusively in the culture of farinha, with which they supply the port of Caravelhas.

CARAVELHAS or CARAVELLOS, in the parallel of the Abrolhos, 18° 0′ S., is the principal mart for farinha on this coast, and the place from which Rio de Janeiro, Bahia, and Pernambuco, are chiefly supplied. A considerable number of sumacks, barks, and launches, belong to this port; which are built here, not only for its own use, but, also, for that of Porto-Seguro. The river has, however, a dangerous bar, that will admit vessels of twelve feet only; but, within the bar, there is a depth of ten fathoms. The river is two miles broad, and proportionally deep, and for six miles that it ascends to the town, (S. Antonio,) its banks are beautifully interspersed with plantations. The town is bustling and populous; the buildings are somewhat superior to those of Porto-Seguro, though in the same style; but the church has a miserable appearance. The country around is well cultivated with plantations of mandioc, from which farinha is extracted.

The southern boundary of the Capitania of Porto-Seguro, is at San Matheus or St. Mathias, where likewise there are plantations of mandioc. The western boundary is undefined; yet the present settlements in the latter direction do not reach ten leagues from the sea, notwithstanding that the interior is known to contain gold, and to abounds in other valuable minerals.

* This description is from Mr. Lindley, in 1805.

† The chapel of N. S. da Judea being very elevated, its white walls form an excellent sea-mark. Its patroness, the Virgin, is particularly invoked by the neighbouring coasters, in cases of distress or contrary winds.

THE

THE ABROLHOS.

THE ABROLHOS, or ISLES of SANTA BARBARA, lie twelve leagues from the coast, in latitude 18° 0′ S. The largest of them is to the eastward, and may be about half a league in length. These isles have neither wood nor water, excepting some rain-water, which may at times be found; but they abound with rats and turtle. Pimentel says that, at three leagues East and S.E. of the isles, the bottom is of living rock, and some of the rocks are to be seen at low water, spring tides, although close to them is a depth of 15 and 16 fathoms. Ships passing this way should therefore keep a good look-out.

Should it be necessary for a vessel, from stress of weather, &c., to make for these islands, it may be effected, either on the north or south. A large ship may anchor on the north side, in 10 fathoms, sandy bottom, at a musket-shot from shore. It has been said that there are 6 and 7 fathoms off the east point of the easternmost island, and that a ship may anchor between it and the southern island; but on the south side of the latter a coral shoal has been found.

On the N.W. side, between the two larger islands, is a channel of 2¼ fathoms, with water so clear that the bottom is seen distinctly, spotted over with rocks. There is also a channel on the S.W. between the smaller islands, with 7 or 8 fathoms, and the bottom likewise spotted with rocks.

On the west of the islands is a channel about six leagues in breadth, with 12, 13, and 14, fathoms; clear bottom of sand and mud. Among the shoals on the western side of it, which extend from shore, are to be seen, above water, some rocks of soft stone, called Chapeiroens, or the Hats.

The COAST *from the* ABROLHOS *to* CAPE FRIO.

THE RIO DAS CARAVELHAS, and that three leagues more to the south, called Perofpe, are connected inland; as those which enter by the one can come out by the other. They admit small vessels only.

From the ABROLHOS POINT to the RIO DOCE, (Sweet River,) in about 19° 30′, the coast does not appear to have been surveyed, but it is said that it may generally be approached with safety. The current of the River Doce is so strong, that its waters are distinguishable by their colour to the distance of a league and a half at sea. Small craft only can enter the river, and these not without difficulty, from the impetuosity of the current, but it is navigable for boats and canoes more than twenty leagues.

At about eight leagues South from the Rio Doce is a high round hill near the sea, called MONT MESTRO, or MESTRE ALVARO, which is terminated on the south by a point called Ponta do Tubaro, or Shark's Point.

RIO de ESPIRITO SANTO.—The entrance of this river, though narrow, is capable of receiving large ships. On its south point is a bare cliff or rock, called Monte Moreno. At half a league within the bay is a sugar-loaf hill, and a church is to be seen at a distance. At the entrance is a shoal, which must be left to the southward, then making for an island which lies farther in. With this island N.W., you may anchor, in 5 fathoms, good ground.

Twelve leagues to the southward of Espirito Santo lie three islets, called the Garipari Isles, at the entrance of a river bearing the same name, but capable of admitting small craft only. The country hereabout has many hills, some of which are high and craggy, and it is famous for the production of balsam.

Of the rest of this coast to Cape S. Thomé, our description is imperfect, having only that of Pimentel. This writer tells us that the shallow of St. Thomé stretches from the cape so far to the S.E., that, from the extremity of it, the land cannot be seen. We have, however, been informed that this is not the case. Pimentel also says that between the bank and the main land there is a channel for small craft. The shoal is of very unequal depth, and, in some places, the sea breaks over it.

The Isles of St. Anne are three in number, and afford good anchorage, with wood, but no water. In the centre, between them, is a depth of 10 fathoms, but a vessel is here much exposed to southerly winds, which come in strong gusts; the best anchor should, therefore,

therefore, be laid to the southward. The reason of this is, that the isle to the south is nothing more than a large round rock.

In the bay within St. Anne's Isles is the village of *St. Joan de Macahé*, situated between the northern bank of the River Macahé and the sea-beach. It consists of about 150 houses, neatly painted and white-washed; for the most part small ones, and of a single story, with a few of superior size and pretensions, on a rising ground, near the mouth of the river; where, also, near the summit, stand the church and flag-staff. The mouth of the harbour is not more than seventy yards broad, and unfit for the entrance of vessels of more than 200 tons. If the flag be hoisted, it is a signal that the entrance is safe. In going in, a vessel must steer close to the south side of the rock; and, when she comes abreast of it, should let go her anchor, with about 15 fathoms of cable. If she overshoot this berth, she must put the helm hard a starboard, and run between the southern point, where there is a channel eight feet deep and two miles long, with remarkably clear water. A little south of the mouth of the harbour, and close to the shore, lies a ledge of rocks, which must be carefully avoided; but every other part seems free from danger.

St. ANNE'S BAY, south of St. Joan, is deep and spacious; in rough weather the surf is violent, and the broken water runs up a long inclined plane. Mr. Luccock says, when the sea is serene, and the ripple comparatively light, it eats away the sands, and forms a flatter beach, with a perpendicular boundary, wherein the luminated appearance of the sand is remarkable. To the southward the shore is covered with shingles, and when it meets the high rocks beyond the River Una becomes bold, stretches to the eastward, and forms the point of *Buzios*, called in some charts Cowries Point. Near the mouth of the Una is the small secure bay of Armazem, affording refuge to vessels baffled in their attempts to double the cape, and when the wind blows hard from the east. The entrance is between two small rocky islands, called, from their different appearance, the *Beautiful* and the *Ugly*. The anchorage lies to the eastward of the entrance.

The coast hence to Cape Frio will be best understood by reference to the Chart.

CAPE FRIO *to* RIO DE JANEIRO, *inclusive.*

THE following DESCRIPTION and DIRECTIONS are chiefly from the pen of Lieut. HEWETT. For some remarks on the winds upon the coast and at Rio, by the same officer, see pages 57, 58.

CAPE FRIO is a high and rugged promontory, separated from the main land by an inlet, which forms a snug harbour for small vessels. The cape is the most remarkable headland, as well as the most necessary land-fall, on all this part of the coast. The land between it and the entrance of Rio Janeiro is low and sandy, falling in to the northward; but, at a short distance from the beach, the land rises to a series of elevated and uneven mountains, presenting an appearance interesting and picturesque.

To the southward of the harbour of Rio de Janeiro are two remarkable isles, Raza or Flat Island, and Redonda or Round Island, which are very useful marks to vessels bound to the harbour: for a vessel bound to Rio de Janeiro should, after rounding Cape Frio, steer due West, keeping about three leagues from the coast, until she makes Redonda, and which will be descried before Raza can be seen, although the latter lies two miles more to the eastward. CURRENTS, at times, set along the coast, either due East or due West, and thus retard or facilitate a ship's progress.

Raza and Redonda, bearing W. ½ S. about three leagues.

RIO JANEIRO.—With Round Island in sight, the Marice Islands, three in number, and appearing as in a direct line with each other, North and South, will be descried to the northward, at about a gun-shot from the main land, and may be passed in safety by giving them a berth of half a mile.

The immediate entrance of the harbour of Rio is known by two lofty peaks, one on either side: the western resembles a sugar-loaf, and *differs from every other on the coast*, (for there are many,) by the inclination of its summit to the *westward*.

If

If night be too far advanced, a preference ought to be given to remaining under way, rather than to anchoring without the harbour, the ground being rocky, and much exposed to a heavy rolling swell, which increases as it approaches the bar, the shoalest water on which is but 6¼ fathoms. The certainty of the sea-breeze before noon of the following day, and the tempestuous and general violence of the land-breeze, accompanied by heavy rain, &c., particularly at the full and change of the moon, renders necessary the precaution of standing off and on, from and to Round Island; for to it the violence of the squalls seldom extends.

The Flood-tide in the Harbour is of shorter duration, and of less force, than the ebb, against which and a strong land-breeze our ship, the Inconstant, *turned in*, to the astonishment of the Portuguese; an effort never before attempted. After violent rains, the rise of the water in the harbour has very little influence over the ebb-tide, except diminishing its strength. The ebb has been known to run a whole day without intermission; the current strongest on the western side: but an eddy flood will sometimes be visible on the eastern side, when the water is discovered to rise.

The Entrance of the Harbour, between the Forts Santa Cruz and St. Joao is, in breadth, three-quarters of a mile. The passage between St. Joao and Square Island, situated immediately in the entrance, should never be attempted, although the greatest depth of water is to be found there: the narrowness of the channel, the likelihood of the wind's becoming variable under the Sugar-Loaf, the irregularity of the tide, with the rockiness of the bottom, if compelled to anchor, render it dangerous, if not impracticable. The true channel is on the eastern side of Square Island, to abreast of which, from the bar, the water gradually deepens from 6¼ to 21 fathoms; and, when a little past it, the ship's head being N.N.W., soundings are lost for a short time, with the common hand-line.

Leaving Fort do Vilganhon or Dovilcalhon (also an island) on the left hand, the best anchorage is obtained, for vessels of war, abreast the city, with the flagstaff of Vilganhon just open to the westward of the Sugar-Loaf. By taking this precaution, a small bank, very dangerous for cables, will be avoided: This bank is situated about 2½ cables' length from Ilha dos Ratos, or Rats' Island, in an E.N.E. direction: it is circular, about a cable's length in diameter, and very rocky: the mark for 4¼ fathoms, which is the shoalest water, is Ilha dos Ratos and the Great Church in one, and Vilganhon flagstaff on with Theodosia Battery; so that its vicinity to Ilha dos Ratos renders precaution necessary in mooring. The best bower, with a good cable, should be laid down to the westward, in order to preserve an open hawse to the entrance; a stream-cable bent on to the small bower-anchor, and taken in at the stern-port, will preserve a free circulation both from the sea and land-breezes, and the ship's head will thus be directed to the only points of the compass from which the wind can be expected to blow fresh, and which are from N.N.W. to S.W.

A bar of sand, with some rocks, extends opposite to the city, the outer edge nearly in a direct line from Vilganhon to Ilha dos Ratos, and ending at the N.E. point of Ilha dos Cobras: this bar is passable for boats only; but within it, all merchant-vessels that there is room for, discharge and take in their cargoes: the only passage to it is around the north end of Cobras, near which are the arsenal and Portuguese vessels of war.

Directions by another Officer.—In entering the harbour take care to pass within hail of Fort Santa Cruz, in order to answer any questions that may be asked. There is plenty of water close to the rocks. Then proceed up to Fort do Vilganhon, below or opposite to which bring-to, or come to anchor, and allow no boats to come alongside but those of the government, until you have received *pratique*, when you will be permitted to proceed higher up the harbour, round the east end of the isle Cobras, to the place of anchorage for merchant-ships.

There are no pilots to be met with off the coast or harbour; for, as there is no hidden danger, they are not requisite. Whilst the sea-breeze is strong enough to enable ships to overcome the ebb, they may safely enter by night or by day. But on entering at night the Fort Santa Cruz makes a signal to the city,* which is not to be understood as interfering with the vessel entering.

* In 1820, of two guns and two lights.

The

The port regulations require all vessels to bring-to a little below Fort do Vilganhon; and any one attempting to pass before she has been visited will be fired at, and the commander liable to imprisonment, besides paying a fine for each gun so fired.

A lighthouse is understood to be preparing for the Isle Raza, and a small light is put up every night in the fort of Santa Cruz. It has been noticed that the time of high-water is at 2h. 30m. *p. m.*, but seems very uncertain.

DESCRIPTION *of the* INTERIOR *of* RIO DE JANEIRO, &c.

Lieutenant Shillibeer, R.M., who has lately published a very curious and interesting volume, describing the voyage of the Briton Frigate, to the Pacific Ocean, has in that work included a description of this harbour; and he says that, the entrance, being narrow, and well fortified by nature, could easily be rendered impregnable. The fort of Santa Cruz may be considered as the principal fortification. The battery at the foot of the sugar-loaf hill is of considerable extent, but so neglected, like several others along-shore, as to be nearly useless. The city, he adds, derives but little protection from its immediate fortifications; and the island Cobras, notwithstanding its contiguity, is now but little calculated to render it any.

There are wharfs and stairs for the purpose of landing at, but the most convenient is at the great square, in which the regent resides. The palace was originally the mansion of a merchant: it is extensive, and has nothing particularly magnificent in its appearance, to indicate its being the royal residence. At the bottom of this square is a very good fountain, which is supplied with water from the adjacent mountains, and conveyed from some distance by means of an aqueduct. The water is not good, and, on first using it, causes a swelling, accompanied with a pain in the abdomen. Ships may be supplied with considerable expedition.

It is almost impossible for a person, possessing the least reflection, to pass this spot without being struck by the contrast which must, necessarily, present itself to him. On the one hand he may contemplate the palace of a prince, surrounded by courtiers and wallowing in luxury; on the other, slavery, in its most horrible state.

Leaving the square, you enter a street of considerable length and width, in which the custom-house, the residence of the British consul, &c. are situated.

The houses are generally well-built, some of the streets are good, and all exceedingly filthy. The shops are well supplied with British as well as all other wares; and, whether the vender be English or Portuguese, he is equally unconscionable in his demand. Most of the streets are designated by the trades which are exercised by those who occupy them. As, in Shoe Street, you find shoe-makers; in Tin Street, tin-men; in Gold Street, goldsmiths, lapidaries, &c. Gold Street is the most attractive, and is generally the resort of strangers, who are anxious to supply themselves with jewellery or precious stones, natural to the country: but it is not always that they are fortunate enough to succeed in obtaining them genuine; for, since the city has become the Royal residence, it has attracted a host of English, Irish, and Scotish, adventurers, and the Portuguese are apt scholars in knavery, so that, from any of them, you are now very likely to acquire a bit of paste instead of a diamond. The inns, although better than in many places, can boast of no excellence.

This city contains a considerable number of churches, but they are by no means splendid; and, excepting the chapel royal, which is adjoining the palace, there is little worthy of notice. The theatre and opera are attached also to the palace, but possess no particular elegance. The market is well supplied with every article, and is in so eligible a situation, that, with a comparatively small portion of trouble, it might be kept in fine order; but the people are idolaters to filthiness, and not less slaves to it than to superstition.

The laws are very deficient here, as well as in the other parts of Brasil: without money it is impossible to obtain justice, and with it you can prevent its being administered. The murder of a lay subject is scarcely ever punished; the least insult to the church, or rather to the men of it, most rigorously.

The trade of this port is very considerable, and from various countries. There is a Chinese warehouse of great extent; and, at certain periods, articles from China may be procured at a low rate. The cultivation of the tea-plant has been attempted, but unsuccessfully.

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The country, for a considerable distance around, is peculiarly beautiful: the mountains high and woody; the valleys perfect gardens. The most delicious fruits are abundant. The quantity of oranges exhibited for sale, in the orange-market, is astonishing. The same tree often exhibits, at once, the blossoms, the fruit in its primitive state, some half ripe, and the rest fully so, or fit for use. The pine-apple is here in great perfection. In the neighbourhood are several botanical gardens, belonging, chiefly, to private individuals, and containing many plants rarely to be met with in England.

The naval department of the Portuguese is not extensive; but in 1814, when his Majesty's ship Briton was here, several sail of the line were in commission, and five of them, with some frigates and corvettes, were ready for sea. Many others, of various classes, were moored off the arsenal, which is of some extent, and situated near the island Cobras.

The harbour of Rio de Janeiro is spacious; and, were the heat less oppressive, it might be esteemed as one of the most desirable in the world. There is a breeze from the sea generally about noon, which cools the atmosphere and renders it endurable.

Notwithstanding that the entrance is so narrow, the harbour increases to the width of three or four leagues, and in this gulf or basin are numerous small islands, some of them containing villages, others gentlemen's seats only. The great part is shallow; so that, at a small distance above the island containing the British Hospital, it is not sufficiently deep for a vessel of any burthen to pass: but great trade is carried on by means of large boats. The whole of the islands in the gulf are very picturesque.

The District of Braganza, situated immediately opposite to the city of Rio, or St. Sebastian, is, also, very fine. It contains the small town of Braganza and a few villages along the coast. Sir Sydney Smith has here an estate of considerable extent, which was presented to him by the Prince Regent (now King) of Portugal, in compliment for the services that he had rendered to that court.

The British frigate Alceste, visited this port on her passage to China; and in the journal of her voyage* we find the following animated description:

"An opening between two extremes of land marks the entrance of the harbour; and here, on the right, is the Fort of Santa Cruz, and, on the left, that of St. Joao. The ranges present in most places conical summits; and, although one has especially obtained the appellation of Sugar-loaf, it is rather from its superior precipitous height, than from being singular in its shape. At this distance, the beauty of the scenery is derived principally from the extent and impressive variety of the forms assumed by the different ranges. Mountains, whose relative distances are marked by the position of the clouds resting upon their summits, form the back-ground. Mr. Ellis says, On approaching nearer to the entrance, the scene became indescribably sublime and beautiful; the mountains that had formed the amphitheatre, on a nearer view, divided themselves into islands and separate headlands; several were thickly, though, perhaps, not loftily, wooded. Fortifications, detached houses, villages, and convents, occupied different positions; the eye wandered in rapturous observation over an endless variety of picturesque combinations, presenting a totality of wondrous scenery, the general effect of which must equally defy pictorial and verbal description.

"St. Sebastian, or the city of Rio Janeiro, when viewed from the church of the same name, appears to be built in a semi-circle; the streets are generally at right-angles. The public buildings are neither numerous nor deserving of notice, in point of architecture. The population is estimated at 120,000 souls, two-thirds of which are slaves, and the remainder consists of Europeans and mulattoes. The agricultural and other severe labour is almost entirely performed by slaves; for, until very lately, not only Europeans, but mulattoes, considered themselves degraded by such employments. The mechanics were formerly all mulattoes; at present, however, the residence of the court has encouraged not only Portuguese, but other Europeans, to establish themselves as artificers.

"Thirty or forty English mercantile houses are established at St. Sebastian, and the export-trade is almost entirely in their hands: their imports consist in English manufacture, and all the produce of Europe which can be required in Brasil: their exports from St. Sebastian are sugar, coffee, and hides; the cotton of Pernambuco being so superior, that but little of this commodity is grown in the neighbourhood. Rio coffee holds the third rank in the European market. Portuguese merchants are the growers

* Journal of Proceedings of the late Embassy to China, by Henry Ellis, Esq. London, 1818.

of

of the raw produce, which is conveyed by them to the port, where it is sold to the English exporter. It has been asserted that the trade of Brasil has lately become unprofitable to the foreign merchants, from the excess of capital employed in it, and that European produce is, *at present*, sold below prime cost; another opinion would attribute existing circumstances to a participation in the general stagnation of commerce, produced by transitory causes. The customs at the port of St. Sebastian are stated to amount to £200,000 per annum."

The FOLLOWING DESCRIPTION is from Mr. Luccock.

The first land generally seen, on advancing towards Rio de Janeiro from the eastward, is Cape Frio, giving its name to the adjoining district. Without the cape, on the north, is the Bay of Papagayos, which exhibits a fair specimen of Brasilian scenery.

From Cape Frio, westward, a stranger, having no vessel under his care, would proceed most pleasantly along-shore, until the Ilha Pay or Paya Isle, is brought on with the sugar-loaf of Rio de Janeiro. This would give him an opportunity of seeing every inlet to the coast, some of which, bordered by lofty masses of naked granite, are very beautiful. It would place before him, almost in a line, the *Corcovado, Gavea, Two Brothers*, and other mountains of singular form, uncouth names, and stupendous altitude. During the morning fogs, which hover about the shore, some of these raise their heads high above the mists, and serve as guides to the port: The Gavea is the most to the west, of the greatest height, and has a remarkable flat top, which seems an immense cube, or table, of stone, with perpendicular sides, placed upon a mountain. The *Corcovado* is a little more to the eastward, a lofty point of rock, which appears to pierce the heavens. Steering for this, when far out at sea, brings a vessel near to the Sugar-loaf, a much lower and conical mountain, with its steepest side to the west. Close to the foot of this rock lies the passage into the harbour.

While rounding the isle Pay, or Paya, the entrance is not visible; but, in proportion as the sugar-loaf draws to the northward of the ship, the gorge opens, and through it is beheld the calm expanse of what is generally deemed the finest bay in the world. The entrance is about a mile wide, and fenced on either side by solid masses of granite, one entire stone without a chink; that on the west is nearly 600 feet high, commonly estimated at much more; its neighbour, on the other side, rears its head to a somewhat greater elevation, and is topped with a signal-staff, from which the first notice is given to the city of approaching vessels. Both hills are very abrupt, and skirted with forts, the advance to which is defended on both sides by strong double curtains. Immediately in front, and about a mile within the narrowest part of the entrance, is the battery of the Lagé or Lagea, a low square fort, situated upon a mass of naked rocks, against which the water breaks with violence, and, in stormy weather, sometimes overtops the battlements, reducing the garrison to great distress and some danger. The fort of Santa Cruz, on the right hand, is very respectable; but the guns are placed too high, and the water is deep close to the rock, so that small vessels may render them perfectly useless.

New beauties unfold themselves on proceeding into and up the harbour. At the mouth is frequently a very heavy and sometimes dangerous swell; and formerly foreign ships were obliged to anchor there, in 17 fathoms water, with a sharp, rocky, and irregular bottom.

RIO DE JANEIRO *to* SANTOS.

MARAMBAYA ISLAND, which begins at seven leagues to the westward of the entrance of Rio de Janeiro, is nineteen miles in length, and forms a large harbour, which abounds in fish. This harbour is bounded on one side by the main land, and on the other by the *Restinga* or Island. The latter is a narrow bank of sand, about twenty feet above the level of the sea. In most parts, especially near the middle, it is quite bare, in others it is covered with various creeping plants, which keep the soil together; it exhibits on its summit a little brush-wood, and at its northern extremity some mangrove. Towards the sea it is steep, and the surf breaks against it with violence; towards the bay it is level and smooth. The latter portion abounds with shell-fish and sand-larks; the herbage shelters many armadilloes; and deer, with other animals of chace, present themselves to the sportsman.

MARAMBAYA, at the western end of this sandy tract, is a single bold mountain, about 700 feet high. It has a church and some good springs. The inhabitants subsist by fishing and the produce of the few fields which they cultivate, without having much to spare.

The ILHA GRANDE, an island four leagues in length, separates the entrances of the extensive harbours of MARAMBAYA and GAIROSU, as shown on the Chart. The interior land is high; and the greater part of the coast presents a double range of mountains. On leaving Rio, when bound this way, the mountain of Gavea is seen at two leagues to the westward. A sufficient offing must be given to the land after passing this point, as the current frequently sets strongly on the shore, to the westward.

The eastern end of the ILHA GRANDE lies at the distance of 15 leagues from Point Gavea, and opposite to the bluff point of Marambaya Island. The channel between it and the latter is very safe, for ships of any size, which may take shelter here. Fresh water may be obtained from the springs at the west end of Marambaya Island, and wood may be had from the other islands in the bay.

On the eastern side of the Ilha Grande is anchorage, in the first bay, called SEIO de ABRAHAO, or ABRAHAM'S BOSOM; but a more secure roadstead is that at the western end. JORGE GREGO'S Isle, which lies off the southern side, is bold; it affords not only anchorage for large ships, but plenty of wood and water. On the north shore, or coast of the main, opposite to Ilha Grande, is the village of Angra dos Reys, where refreshments may be had.

ST. SEBASTIAN, &c.—Within the island of St. Sebastian, which lies about twenty leagues W. S.W. from the Ilha Grande, is a safe harbour, formed by the island and the main. Vessels should enter from the northward, and keep near the island, as there is a shoal bank on the opposite side. Refreshments may be procured at the villages, both on the island and the main. The south entrance is not above a mile wide, but it will admit a frigate of war, and afford shelter during a S.E. gale.

Within the ILHA DE PUERCOS, or HOG ISLAND, to the N.E. of St. Sebastian, is good anchorage, in 8 and 9 fathoms. The BAHIA de TUBAROES, or SHARK'S ROAD, opposite to this isle, has likewise good and clean ground, and is capable of admitting ships of burthen.

In passing between St. Sebastian's and the Harbour of Santos, the ALCATRASSES, or CORMORANT ISLES, should be approached with caution, the ground about them being foul.

SANTOS.—As a particular plan of this harbour is given on the Chart of the Coast, a prolix description is unnecessary. On reference it will be seen that the outer part is a circuitous bay, with a sandy beach, affording anchorage and shelter from all winds excepting from the South and S.E. The whole bay is perfectly clear and safe.

The maritime district of Santos includes some excellent little harbours, viz. St. Sebastian's, already described, Bertioga, Santos, Iguape, Cananea, and Paranagua; but the intercourse of these with the interior is interrupted by the Serro of Cubatam, which, in one part, approaches close to the shore. At Paranagua, or Pernagoa, and Cananea many vessels are built. The principal whale-fishery of Brasil has latterly been off this coast.

SANTOS TO THE RIO DE LA PLATA.

At the distance of 10 leagues to the S. S. W. of the entrance to Santos is the isle Redonda, a little round isle, in latitude 24° 31′, at about six leagues from the nearest shore. It has a little reef within it, extending about four miles, in a direction nearly parallel to the coast. Those that may happen to get to the westward of Redonda should observe that, with the isle E. ¼ N., a ship may be within half a mile of the reef.

The harbours of IGUAPE, CANANEA, and PARANAGUA, have been already noticed. They are all bar-harbours, and in the rivers within them small vessels are built. In 26° 16′ S. is the island of St. Francisco, which forms the two branches of the river of the same name; the only considerable and important river hereabout. The country here, though rich, is swampy and unhealthy, and the coast generally flat. Off shore are several small islets, which require notice.

ST. CATHA-

ST. CATHARINE'S.—The entrance of the excellent harbour, formed by the island of St. Catharine, lies as represented in the Table, page 10. This harbour was visited by the Russian captain, Krusenstern, in 1804, as already noticed, and by Captain Perouse, in 1785. Of this harbour M. Krusenstern has said, "Those going round Cape Horn, or destined for the whale-fishery upon this coast, cannot desire a better harbour than St. Catharine's to run into. It is infinitely preferable to Rio Janeiro, where strangers, particularly if they arrive in merchant-ships, are treated with the same insulting jealousy as in Japan.* Even Cook and Banks were exposed there to insults, the very relation of which cannot fail to excite disgust. In St. Catharine's, in the vicinity of which there are no diamond-mines, a stranger enjoys perfect liberty. The harbour is excellent, the water is very good and easy to be procured. Fire-wood may be felled free of expense; and, for what is really felled, and the vendor himself brings on board, a charge is made of ten piastres the thousand; every log of which is upwards of three feet long. The climate is particularly healthy. Our people, after a residence of seven weeks here, were all perfectly well: during the first days, indeed, several of them were seized with a violent colic, which lasted only a few hours, and then disappeared entirely. The heat, even in January, the hottest summer month, is quite tolerable; and it is diminished by the constant fresh sea-breeze. Provisions and fruits, of all descriptions, are here both cheap and abundant. We purchased, for example, an ox, weighing 400lb. for eight piastres; a hog, weighing 200lb. for ten; and for five fowls we paid one piastre. The season was still too early for oranges and lemons, yet we had them, by thousands, for a mere trifle. Water-melons and pumpkins were in the greatest plenty. Of fish, indeed, we found a great scarcity; but the season, owing to the heat, was unfavourable for fishing, which is accounted a very profitable employment, excepting in the summer months. The only vessels used for this purpose are canoes, hollowed out of a single tree, of which some are more than thirty feet long, and only three feet wide: owing to this narrowness, though they run with great rapidity, they cannot venture to sea in rough weather.

"I shall conclude with some nautical and astronomical observations which we made here. The entrance is as easy as possible. The islands Gal and Alvaredo (at the entrance) are not to be mistaken: the first, which is the smallest, and lies most to the northward, is particularly remarkable by its long white streaks on the steep side, as well as by two small rocks, which lie at the N.E. extremity. At the distance of about nine miles the depth is 30 fathoms, and gradually decreases. In coming from the northward, it is best to steer between the islands Gal and Alvaredo, leaving the small rocky island S. Pedro on the right. The latter lies 3¼ miles W.N.W. of Alvaredo. A S.S.W. and S.W. by S. course leads directly to Fort Sta. Cruz. The anchorage is perfectly safe every where, whether to the northward or southward of this fort; yet it is better to anchor to the southward, as well on account of communication with the town, as of the vicinity to the village of S. Miguel, where the best water is to be procured. In coming to St. Catharine's, from the southward, you steer between the island of Alvaredo and that of St. Catharine. The passage is perfectly safe. If the wind should be contrary, a ship may work in without danger; for, close to St. Catharine's, there are 4 fathoms of water, and the coast towards Alvaredo is equally deep.

"The observations on the tides were made on the Island of Atomery, where the observatory was erected by Dr. Horner. The following are the remarks which he communicated to me on this subject.

"The ebb and flood are here very unsettled, and depend entirely on the wind. The flood sets in from the north, the ebb from the south; and, as the wind is almost always from the sea, the ebb, with a fresh northerly wind, is scarcely apparent, and seldom lasts more than two or three hours. The time of high water, at full and new moon, was, by a mean of several observations, found to be 0h. 49m. The water continued sometimes at its height for three or four hours together, during which no change whatever was perceptible, either in its increase or decrease. The lowest tide we had, was on the 27th of January, (1804), one day after the full moon, with a fresh north wind; and the highest tide, which rose three feet, was two days after the full moon, with a very moderate N.E. wind. A southerly wind kept the water up above an hour.

"The variation of the needle, which Frezier, in 1712, found to be 10° E., we found, by a mean of two compasses, 7° 50′ E."

The description of La Perouse accords well with that of Krusenstern, and so does that of Captain Lisiansky. M. Perouse, who visited the harbour in November, 1785, says,

* It is almost superfluous to say that this is no longer the case.—ED.

"The

"The approach of ships to St. Catharine's is very easy. At eighteen leagues in the offing there are 66 fathoms water, over a bottom of soft mud, gradually shoaling till within four cables' length of the shore, where there are still 4 fathoms of water."

The MORRO of SANTA MARTA, in latitude 28° 50′, is the termination of a range of inland mountains. About ten miles to the northward of it is the little town and bar of *S. Antonio*, or *Laguna*, whence there is some trade with Rio de Janeiro. The distance to the S.W. from the Morro de Sta. Marta to the bar of the *Rio Grande de S. Pedro* is ninety leagues. Between these places there is no port of any consequence. The coast, generally, is low and sandy.

From the want of a regular survey, it is to be observed that the Charts do not exhibit soundings on a great part of the Brasilian coast; but yet, in every part, between Rio Janeiro and the River Plata, soundings may be found at a very considerable distance from the land.

RIO GRANDE.—The district of the Rio Grande de St. Pedro is of great importance to the northern parts of Brasil; its port being the channel of communication with a rich interior, which supplies pulse, grain, and other productions. It includes the whole of the great lake called the *Lagoa dos Patos*, and of the rivers which fall into it, from the north and west. Mr. Luccock, on proceeding to this place, in 1809, says,

"On approaching the coast of Rio Grandé do Sul, we first made land in the neighbourhood of *Estreito*, about nine leagues north-east of the bar of the river whence the province takes its name. Little round hillocks of sand, without the slightest degree of vegetation, seemed to rise out of the water, to which a splendid sun communicated a dazzling whiteness. Soon it appeared that these were only inequalities of a sandy shore, from the midst of which arose the church of Estreito, a small building in the usual style of such edifices in the villages of Brasil. A few trees and a scanty portion of verdure about it now becoming visible, served to increase the forbidding appearance of the surrounding desert. Long before we saw any marks, by which to guide our course, we were in shoal water, and encompassed with sand-banks.

"The captain, having stationed himself at the mast-head, saw these shoals and the channels between them more clearly than they could be discerned from the deck, and gave us directions how to steer. At length a boat came out to meet us, with a pilot on board, and, by appropriate signals, did us the same service. These signals not only point out the course which a vessel is to take, but sometimes direct her to anchor where she is, or even to proceed again to sea when there is not water enough on the bar to carry her safely over. The first of these directions is given by holding from the boat a small flag in the direction which the vessel ought to take; the two latter by lowering it altogether. The signals are explained hereafter.

"When we had reached the boat she did not put the pilot on board, but proceeded a little a-head, sounding with a long pole, which was dexterously turned over from end to end, as we proceeded across a broad and shallow bar, situated in a deep and dangerous bight. We entered the river between a bluff head to our left, and a long low sandy point to the east, through a passage about half a mile wide, guarded by a few miserable erections called forts and batteries. Just within the passage lie the vessels, which have received their lading, and are ready to proceed on their voyages, waiting for a sufficient depth of water on the bar. Round the point resides the *piloto-mor*, who has the superintendence of the place, and to whom I am greatly obliged for many kind and gentlemanly attentions.

"The decline of day, and tediousness of our progress, rendered me impatient, and induced me to ascend the mast, hoping to look beyond the flat, dreary, desolate, and almost houseless, waste, immediately before our eyes. From thence nothing was to be discovered, on the east, but loose and barren sand: westward appeared a tract of swamps, partially covered with brush-wood; beyond, a broad line of water, the Bay of Mangueira; and, still farther, the small white pretty-looking town of *St. Pedro do Sul*, commonly called *Rio Grandé*. The church, which the people dignify with the name of cathedral, rose in the centre of the buildings, and formed the chief feature of the view. Before us lay several vessels at anchor, and among them a fine schooner with the British flag flying, indications of commerce which cheered our spirits, and gave us a more pleasant evening than we had enjoyed for a long time.

"Custom-house officers were put on board at the batteries; and the next morning the vessel was brought up to her anchorage in a masterly style, close to the village of St. Pedro

Pedro do Norté, and three miles from the principal town; the sand-banks not permitting a nearer approach. From the entrance of the river to the anchorage, through a course of nine miles, the same obstructions prevail, leaving a narrow intricate channel, with barely water sufficient for a deep-laden brig. About six miles up, on the left hand, is a large bay, still called the Bay of Mangueira, though little of that plant remains on the neighbouring swamps. In the Bay, fishes of various sorts so abound, that afterwards crossing it, at a late hour, great quantities threw themselves over our canoe, in every direction, and some fell into it. A little higher up is another broad inlet, navigable for yachts of fifty tons, within which is the fertile island of *Marinheiros*, containing some of the highest land, and the best cultivated spots, in the neighbourhood. The soil is a red clay, which shows that it was once attached to the continent, and is of older formation than the bay. It is celebrated for the production of onions, and of an article of higher value: from hence, or from the island of Sta. Maria, the town is supplied with almost the only drinkable water used within it. Beyond these islands, the water expands to a breadth of more than ten miles, but is so very shallow, that the practicable channel which runs near the eastern shore, is in one part not more than 100 yards wide. Other islands, besides those which have been mentioned, are scattered about this expanse of water, and communicate to it some little ornament. The distance from the bar to the entrance of the Lagoa dos Patos is about thirty miles; the whole of which is, with some impropriety, called the Rio Grandé, and considered as the harbour of St. Pedro. Through this long course, the channel is hardly any more than twelve feet deep, and, in some places, reduced to six inches; so that three feet may perhaps be nearly the average depth of the river.

"The country, as we advanced towards St. Pedro, and even in the environs of that town, was not much better than that portion already described. When settled, my favourite morning walk was to a fort upon the summit of the loftiest hillock near the place, from which, small as the elevation really is, there is a spacious view of the river, and of a region wild and desolate in almost every quarter. To the north lies the fine island of Marinheiros; to the south a marshy tract, partially covered with vegetation, the ground rising and becoming drier as it approaches the ocean; to the east, beyond the water, are loose sand-hills, their height from 120 to 140 feet; the tops are usually round; towards the west, the country is also sandy, gently undulated and destitute of every thing green. When the wind blows strongly from the S.E., as it often does, it brings with it so much sand, which whirls from the tops of the hills like smoke from a volcano, that the eyes can hardly venture to take that direction. Turning the back to the wind for relief, the sand is seen travelling onward like a vast fall of snow; a portion of which, impeded by the town, is piled against the houses, and sometimes mounts and crushes the roofs. The extent of this desert, however, is not great; it forms a slip along the edge of the ocean, not more than fifteen miles broad at a medium, though it is 300 miles long; and here and there are scattered rich oases, the sites of pleasant farms. The sand evidently comes from the ocean, being first cast upon the coast, and then driven farther inland.

"The town of St. Pedro, situated in a level plain, not many inches above high water mark, contains about 500 dwellings; and the whole number of stationary inhabitants may, perhaps, be 2000; two-thirds of which are supposed to be white, or very lightly tinged. But some of the houses, belonging to persons who reside on their estates, are seldom occupied, except at religious festivals.

"There were here marks of vigour, precaution, and discipline, such as I had not before seen in this part of the country. On the northern side of the Plata, not a single sentinel made his appearance, and the soldiers were ill clothed, and worse accoutred. But at Rio Grandé, men under arms, properly furnished for their duty, were stationed at the government-house, on the quay, and at all public offices.

"The neighbourhood of the town afforded a sphere for the consumption of some of its imports; more of them proceeded up the Lagoa dos Patos, to Porto Alegro, and the rivers which fall into it; up the Lake Mirim, and through the Ygaroon to the fine country lying at the back of Monte Video and Maldonado. From these extensive waters the exports are collected, consisting chiefly of hides, tallow, wheat, onions, cheese, and charqued or jerked beef: all these articles are sent to Rio Janeiro, only that Bahia shares with it the last mentioned. The vessels sailing from Rio Grandé, in 1808, amounted to 150, half of them to Rio de Janeiro; they were, in general, brigs from 100 to 200 tons burden, and completed their voyages in four or five months. The country produce is brought down in yachts, of from 20 to 70 tons burthen. A few of the brigs load

load at Porto-Alegro; the greater part at St. Pedro, whence all are obliged to take their clearance. The value of this trade to Brasil is incalculable, notwithstanding the injury which it receives from the government's draining the country of its cash, and furnishing nothing in return."

Signals, by which vessels approaching to enter the Port of Rio Grande do Sul, show to the pilot-boat the water which they draw.

The bar of Rio Grande do Sul, according to the pilot's account, lies in latitude 32° 8′ South.

A vessel unacquainted with the coast should run down into 7 fathoms of water, until she observe a tall flag-staff. This stands at the entrance of the harbour, and is the station of a man on the lookout. When the vessel heaves in sight, he hoists a white flag, and a boat goes out to meet her on the bar. So soon as the boat is observed, the signals which it makes with a small red flag must be carefully noted, and the vessel luff or bear away, according to the direction in which the flag is waved. She must also declare her draught of water in palms, or eighth parts of a fathom, by the following signals at the fore-mast head.

PALMS OF WATER.	FLAG.
10	White.
10½	Blue.
11	Red.
11½	White. Blue.
12	Blue. White.
12½	White. Red.
13	Red. White.
13½	Blue. Red.
14	Red. Blue.

The pilot, on being informed by these signals, of the vessel's draught of water, will reply either by keeping his own flag up, or by lowering it. If he keep it up, the vessel off can enter; if he lower it, she must return to sea, or anchor outside.

The following Directions for Sailing to the Rio Grande were written by Mr. Wm. Grant, in 1802.

Finding yourself in lat. 31° 30′ S., and having N.E., E.N.E., or Easterly winds, (any other winds may be dangerous, that is from the sea,) you may stand with security for the land, steering W.S.W., until you find yourself in soundings; and, when you find yourself in 13 fathoms, you will see the land, if to the northward of the bar; but, if you have passed it, you will not, as the bank to the southward stretches out to a greater distance; and you cannot see the land unless when you are in 8 fathoms, and then barely.

The land, about 31° 40′, you will know by seeing several tufts of trees, pretty high and rounding to the northward; and, standing along shore, steering S.W., you will see sundry straggling tufts, but not so high. Here, if it be very clear weather, you may see houses, which will appear in the opening of the trees. You may then stand along-shore with safety, keeping in from 10 to 9 or 8 fathoms. Losing sight of the trees and houses, you will see some mountains of sand and an entire sandy beach; and, when you are within two leagues of the bar, you will see tufts of trees, and find the soundings decrease, with a bottom of mud and red shells. You must now keep in 8 fathoms, but not less, as the water sets right on shore when close to the beach. The lead must now be kept going until you find soft mud, when you will find yourself close to the bar, which may be known by seeing several stakes along the beach: you must then haul up and steer south, to keep clear of the bank, and will see to the south two long poles on with a signal-mast, and some houses which appear on the point of the northern shore, between two high mountains of sand, which are on the south side of the river; these you must bring to bear N.W. by W., and the signal or red flag-staff W.N.W.: with these bearings you may stand in for the bank, keeping in 8 fathoms, until you see the pilot-boat, which anchors inside the bar. You may easily know the bank by the sea's breaking over it, particularly from the eastward. In crossing the bar you will sometimes find two fathoms; and, at times, no more than 9 or 10 feet; but that seldom happens, as the bar of late years increases, and there has been from 14 to 16 feet found on it. When you cross the bar, you will deepen your water gradually from 3, 4, 5, 6, to 7, fathoms, and no more until you get abreast the houses above noticed. You may then stand over to the fort at the south side, and anchor in 5 or 6 fathoms.

St. PE-

ST. PEDRO TO THE RIVER PLATA.—From the Bar of St. Pedro to Cape Santa Maria or St. Mary, at the entrance of the River Plata, the distance is 60 leagues. The coast between is generally low and flat, having within it numerous lakes and ponds. In the parallel of 34° 20′, are the remarkable rocks called the *Castelhos Grandes*, 9 leagues to the north of which are the *Castelhos Chicos*. Mr. Luccock says, "The rocks called Great Castelhos consist chiefly of three large masses of naked granite, about a hundred feet high from the water, with perpendicular sides and roundish tops. They appear close to the shore, and, at a distance, are thought to resemble castles built on the beach; but, if there be such a resemblance, at any point of view, it vanishes on a nearer approach. They are backed by low woody hills; and the beach to the northward of them, as far as the Castelhos Chicos, is flat and sandy. There seems an expanse of water towards the west, which ought to be surveyed, as probably a harbour might be found, useful for small vessels, when the wind blows hard from the south-east. More than once I have known these rocks mistaken for Cape St. Mary; the cape, however, is very different, being a flat sandy point. The coast between them is low and naked, with inlets, some of which are said to afford good anchorage.

"Near to the Little Castelhos is the Fort of Santa Teresa, whence the road (inland) to Maldonado is very delightful."

From the Castelhos Grandes to Cape St. Mary, the distance is seven leagues. The cape, which is low, is described hereafter. From Cape St. Mary to the east point of Maldonado, the distance is 13¼ leagues, and the true bearing S.W. by W. ½ W.

The NORTH SIDE of the PLATA has been described by Mr. Luccock as follows:

"On the coast, off Maldonado, lie two islands; one of them, called Lobos, displays but little verdure; the other, Gorita, [Gorriti,] is lower, has a few buildings upon it, and under its lee is the harbour; the beach of which is exposed to a heavy surf, which renders landing sometimes dangerous, at others impossible. There are two entrances; that on the eastern [S.E.] side of the island is very narrow; forced, on one occasion, to go through it, we used some extraordinary precautions, and succeeded happily. On the west, the coast is bold and stony, the entrance broad and deep, and to small vessels perfectly safe; but, about midway, is a rock with twenty-four feet water upon it, on which the English ship of war, Bedford, once touched and laid a buoy. The anchoring-ground is near the centre of the bay, where lies the wreck of a British ship, the Agamemnon."

The town of MALDONADO, which, from the sea, has no very attractive appearance, is two miles from the shore, standing on the brow of a hill gently descending 250 feet above the level of the water. The principal buildings form a quadrangle, and include a fine new church. The common habitations are built of brick, and covered with straw. The houses in the streets, issuing from the square, are chiefly low, and constructed of earth. The whole number is about 250; that of the inhabitants from 800 to 1000.

RIO DE LA PLATA, OR RIVER PLATA.

The following "Remarks concerning the Winds, Weather, Tides or Currents, Soundings, &c. in the River Plata, with a few instructions for navigating therein, by Captain Peter Heywood, of H.M.S. Nereus," were first published in the year 1813, with the following Preface.

"Captain P. Heywood, of His Majesty's ship Nereus, having been for three years on the Brasil station, and the greater part of that time in the River Plata, had the opportunity to observe that the loss of many vessels in that river was occasioned by the masters wanting proper directions for its intricate and dangerous navigation. Captain Heywood, on his return to England, very obligingly transmitted to the Committee for managing the affairs at Lloyd's, his observations and instructions for the safe navigation of the Plata; which the Committee are happy to publish (with Captain Heywood's permission) for the benefit of all persons navigating that river." *Lloyd's, October*, 1813.

REMARKS, &c. &c.—At the entrance of the River Plata, the prevailing winds during the summer months, from September to March, are north-easterly, with tolerably clear weather over head, but a dense atmosphere near the horizon. These winds haul gradually to the eastward as you advance up the river; and about the full and change of the moon, strong breezes from the south-eastward are common at this season, accom-

accompanied with rain and foul weather. At Buenos Ayres, during the summer months, the S.E. winds are generally fresh in the day-time, hauling round to the northward in the night.

During the winter months, from March to September, the prevailing winds, at the entrance of the Plata, are S.W., or more westerly; but, up the river, more generally from the northward, than the southward, of west.

The winter season is the best, in point of weather, at Buenos Ayres; for, the winds being chiefly from N.W. to S.W., the water is smooth, and the communication can be kept up between the shore and the shipping with more facility. The weather is sometimes, but not frequently, foggy. Fogs are most common in the months of July, August, and September, and prevail more at the entrance of the river, as far up as the S.E. tail of the Ortiz, than above the banks.

As it cannot be said that there are regular tides in the Plata, but currents as uncertain in their duration as they are irregular in their rate and direction, no certain allowance can be made for them; therefore a ground-log should always be used, to know the course made good, and distance run.

The tides, speaking generally, when the weather is fine and settled, and the winds moderate, do not, in any part of this river, rise or fall more than 5 or 6 feet; though, at Buenos Ayres, at the distance of eight miles from the city, we found, in His Majesty's ship Nereus, when the winds were strong at N.W., so little, sometimes, as 15 *feet* water; while, with strong breezes from E.S.E. to S.S.W., the depth was upwards of 5 *fathoms*: but, except on such extraordinary occasions, we had between 17 and 22 feet water. I have heard, however, some marvellous stories of the river having been almost dried up, across from Buenos Ayres to Colonia, during heavy westerly gales.

The River Plata has many singularities; which I think may, in a great measure, be accounted for, from its formation being so different from any other known river. Its entrance being very wide and very shallow, it is affected by every change of wind in a most extraordinary manner: so much so, that a shift of wind may be predicted almost to a certainty, by observing carefully the state of the mercury in a barometer and the set of the currents, which usually shift before the wind. In *calm* weather the currents are generally very slack; and then as regular, almost, as tides; setting up and down the river alternately. When the winds are variable, the currents are equally so; and I have known the Nereus to be current rode four different ways in less than six hours. When the current comes in from the eastward, along the north bank of the Plata, a north-easterly wind may, generally, be expected to follow; and at the same time (should the wind have been previously to the S.E.) the mercury in the barometer will fall a *little*: but much *more* if the transition be quick from south-west without stopping in the south-eastern quarter.

When the wind continues in the north-east quarter, the mercury is more depressed (according to its strength) than with any other wind, and there is usually, *then*, a set *into* the river on the north bank, and *out* on the *opposite*. Indeed, whilst the winds are between N.E. and S.S.E., the current generally runs to the westward, past Monte Video, though without much augmenting the depth of water off that place, but filling the river above the banks.

The winds between N.N.E. and W.N.W. make the water lowest: the out-set being then strongest along the south bank of the river, past the Points del Indio and Memoria; but very inconsiderable along the north bank.

Before the setting in of a S.W. gale, or Pampero, the weather is usually very unsettled, and the winds unsteady and variable in the northern and north-western boards; preceded by a considerable fall in the mercury, though it usually rises a little again before the wind shifts to the south-west; and often continues to rise, even though the wind may increase from that quarter.

Before these winds set in at Buenos Ayres, the current runs up, and fills the river unusually high; at the same time as strong an out-set is experienced along the north bank, which continues whilst the winds are strongest from W.S.W. to south, seeming to prove that these winds force up, from the southward, a large accumulated body of water past Cape St. Antonio, which can only find a passage out again by the north shore, where they increase the depth of the water, as well as up the river, and particularly in the shallow harbour of Monte Video. Whilst these S.W. winds blow, the air is cold, and the atmosphere clear and elastic, in a degree rarely to be met with in any other part of the world. They are generally succeeded by some days of fine serene weather; the wind continuing moderate from the southward, or varying to the eastward.

I have

I have never known the velocity of the tide or current, in the River Plata, any where to exceed three knots per hour; but I have heard it said, by some, that they have found it run at the rate of six or seven miles an hour!

As the winds outside the River Plata, and particularly about Cape St. Mary, are most frequently from the north-eastward and northward, except when the S.E. summer and S.W. winter gales blow, about the times of new and full moon, I consider it, on the whole, most advisable, for ships bound into the river, to get in with the land about the latitude of that Cape, which is 34° 40′ S., and its longitude 53° 54′ W. of Greenwich; or 2° 9′ E. of Mount Video.*

In latitude 33° S. the bank of soundings extends off the land full thirty-six leagues; where the depth of water, in longitude 50° 20′ W., is 94 fathoms; and the quality of the bottom dark olive-coloured mud, or ooze, as it is all along the outermost verge of the bank.

In latitude 34° S. and thirty leagues from the land, the bank is steep, and the soundings decrease quickly; in standing to the westward, to 25 fathoms, twenty leagues from land.

In latitude 34° 20′ S. and longitude 51° 50′ W., or about thirty leagues east of the Great Castelhos Rock, the depth is 63 or 64 fathoms, dark mud. In standing in for the land, between the Great Castelhos and Cape St. Mary, the water shoals, in a short distance, from 60 to 25 fathoms; and the quality of the bottom changes to sand, which grows coarser as you approach the coast; and, as far as seven leagues off shore, is intermixed with shells. This bottom is found only in, and to the northward of, the latitude of Cape St. Mary, except very close in with it.

To the southward of 34° 40′ S. the bottom is chiefly mud, intermixed with fine sand or gravel; and if a ship happen to be set to the southward of Cape St. Mary, as she hauls in for the land, yet keeps to the northward of Lobos, she will get out of fine sand into dark mud; which is the quality of the bottom (chiefly) between Cape St. Mary and Lobos; as well as eight or nine leagues to the eastward of that island; and the depth of water between them is generally 26 to 20 fathoms.

In latitude 35° S. and longitude 52° W., or forty-two leagues *true* east of Lobos, there are about 90 fathoms water, dark sandy bottom; from whence the bank of soundings takes a S.W. direction. East of Lobos, twenty-seven leagues, the depth is 25 fathoms; and, in steering in, on its parallel, the same depth nearly continues till very near that island. But, if set a little to the southward of Lobos, the water will shoal even to 10 fathoms, perhaps, on a hard, sandy, or gravelly, ridge, that extends all the way from the English Bank, in its parallel, as far as longitude 52° 30′ west; or full eighteen leagues to the eastward of the meridian of Lobos.

Thus the approach to this river cannot be considered dangerous, if proper care be taken in navigating, and due attention paid to the lead, and to the course steered.

I shall here insert the Honourable Captain Bouverie's description of Cape St. Mary, &c., which I believe to be very correct, and his directions judicious.

"Cape St. Mary is a low point, with rocks all about it. The direction of the coast, to the westward of this Cape, becomes more westerly than at any other part northward of it. About six miles north of it is a house, with a row of trees northward of the house, (probably a fence of high prickly pear-bushes,) which is very remarkable.

"About a mile south of the house is a bluff point, with a few rocks at the foot, which is remarkable, being different from the rest of the coast, the general character of which is a sandy beach. One cannot fail knowing the Cape by these marks, running down the coast near it. If you are at any distance off, you will not perceive them. The water off Cape St. Mary is shoaler than to the northward. Off the Cape, in a S.E. direction, you have 8½ fathoms at the distance of four or five miles."

I am inclined to think Captain B. may have been somewhat deceived in his estimation here; for, in H. M. S. Nereus, I found more water at the distance he mentions. On the 17th of November, 1810, at noon, in latitude 34° 42′ S., and longitude about 2° 20′ E. of the Mount Video, had light winds from S. by W. and fine weather. At half-past one *p. m.* tacked in 23 fathoms, to stand in shore, and carried from that depth to 18 fathoms, when sights were taken for the chronometer, which made 2° 13′ 21″ east of Mount Video, Cape St. Mary bearing N. 66° W.; and standing on, laying up West and W. by N., tacked in 12½ fathoms water, the prickly pear-hedge, (mentioned by Captain Bouverie,) being on with Cape St. Mary, (which is formed by a low rocky islet nearly

* We have the Cape in 34° 39′ S. and 53° 56′ W. See page 10, and Notes 17 and 18, p. 13.—Ed.

joining the shore,) bearing north by compass, and the breakers stretching to the S.E. of the Cape N. 7° E.: about three miles was our distance from the Cape.

Captain Bouverie, in continuation, says, "To the northward of the Cape, between it and Palma, you have 10 or 11 fathoms at a little distance from the shore.

"Ships, in general, make the land with North or N.E. winds; therefore it is best to keep in the latitude of the Cape, or a little to the northward of it, till you get soundings, as the current sets to the S.W. It is better not to make the land north of the Cape; not that I believe there is any absolute danger; but the water in many places is shoal a long way off the land, and would alarm any one not acquainted with that circumstance.

"In latitude 33° 27′ S. and longitude 52° 9′ W. is a shoal, where we found 9 fathoms water. I believe it is a ridge running in that parallel of latitude all the way to the shore. In latitude 34° S. is some tolerably high land, on which is a Spanish fortress, called Fort Teresa. It is a square, with bastions at the angles. It has three guns in the face and one in the flank, and stands about a mile from the beach. About six leagues N.N.E. from it is a mark set up, as the termination of the Spanish territories.

"Being in latitude of Cape St. Mary, and having got ground in 28 or 30 fathoms water, fine sand and shells, you may reckon yourself twenty leagues off shore: with from 15 to 20 fathoms, sand and clay mixed, you are not far off the land. When you have not seen the land before night, be sure to keep to the northward of the Cape by your reckoning, to allow for the current; which sets to the southward. This is the case with the above-mentioned North and N.E. winds. With South and S.W. winds the current runs strong the other way.

"I am inclined to think that the strong north-easterly currents, which are to be met with off the mouth of the Plata, when the wind is about to blow, or blowing, from the south-westward, do not extend much, if at all, beyond the bank of soundings."

Agreeing in opinion with Captain Bouverie, that, generally speaking, it is advisable to make the land about Cape St. Mary, I would also recommend, if the wind should be any where between S.E. and N.N.E., to enter the river on the north side of the English Bank, passing Lobos, on either side, according to the wind and state of the weather. There is a good passage between Lobos and the main, having 17 to 14 fathoms water.

The island of Lobos is in latitude 35° 1′ S. and longitude 54° 39′ W., or 1° 24′ East of the Mount Video. It bears about S.W. by the world, from Cape St. Mary, distance forty-one miles. The variation off it is 13° Easterly (1813).

When within three or four leagues of Cape St. Mary, in 17 or 18 fathoms, S.S.W. by compass is a fair course to steer for passing outside of Lobos in the night-time; for, with the wind from the eastward, or N.E., the set along shore into the river must be guarded against. Steering this S.S.W. course, the depth of water will increase to 20 and 22; and some casts, perhaps, of 25 or 27 fathoms, (if you are set neither to the westward nor to the southward of it,) and the bottom will change, first to sandy mud, and then to dark-blue mud, as you approach the latitude of Lobos. If you are set to the southward, in steering S.S.W., you will not deepen so much; the bottom will keep sandy; and when you approach the latitude of Lobos, you will have no more than 19, 18, and 17, fathoms; but if you are set to the southward of Lobos a few miles, you will have hard casts of from 16 to 10 fathoms, and may rest assured of being on the parallel of the English Bank, and may therefore make a west-northerly course true, till you find the bottom soften; as it is all dark-blue or greenish mud, in the channel, between the foul ridge of the English Bank and the north shore, all the way up to Monte Video, in the fair way from Lobos. When off Lobos, if the weather threaten, and it should be likely to blow, a ship will find safe anchorage in the harbour of Maldonado, sheltered from southerly winds by the Island of Goritti, which bears N. 42° W. *true*, eleven or twelve miles from Lobos. As I have never been in Maldonado myself, I shall insert here what Captain Bouverie says about it.

"The Spanish surveys of this bay lay down a sufficient depth of water for any ship between every part of the island and the main; however, it cannot be safely entered, but by small vessels, except to the westward; and you must not go farther in than to bring the N.W. point of Goritti to bear S.S.W. ½ W., or S.W. by S. by compass, with 4½ or 5 fathoms, good strong clay. With southerly winds there is, in the east passage, a heavy swell; and the water, from the ground being uneven, breaks almost the whole way across in bad weather. The Diomede (fifty-gun ship) passed through it to the anchorage before its dangers were known, and had not less than eighteen feet: but there are places where there is so little as 1½ fathom; and it is very irregular. There is a bed of rocks to the south of Goritti: the marks for it are, the Tower of Maldonado, North, and the outer part of Point del Este, E.N.E. ½ E.

"In

"In the direct line of the entrance of the bay, from the westward, is a bed of rocks where there are parts having only 3 and quarter-less 3 fathoms. The bearings, taken on the rocks, are, N.E. point of Goritti E. ¼ S.; N.W. point of ditto, E. by S. ¼ S.; S.W. point of ditto, S.E. by S.; Point Ballena, W. by N. ½ N.; the hill of Pan de Azucar, just within the extreme of Point Ballena.

"In mid-channel, between these rocks and the island, are 6¼ and 7 fathoms: their distance from the island is about three quarters of a mile. There is 7 fathoms close to them, all round the western side. The watering-place is on the main, close by a battery: the stream loses itself in the sand, except when swollen by heavy rains, and you have to roll your casks about sixty yards over the sand: the water is very good."

Having Lobos bearing N. by W. by compass, distance three or four miles, you will have about 18 fathoms; and, in making a compass course, W. ¼ S. by ground log, (having due regard to the wind and current at the time,) you will make the island of Flores a-head of you. In this track your soundings will gradually decrease from 18 to 12 fathoms, due south of Black Point, and to 7 or 8 fathoms when you approach within nine or ten miles of Flores.

Though Captain Bouverie says, "You may run quite up to Monte Video, either by night or day, by making a due west course, first trying the current to make allowance for it;" and though I have frequently done it myself, yet I would not recommend it as a general rule to be followed by strangers to the River Plata. Great care and attention to the course made good, and to the soundings, are indispensably requisite in those who attempt to conduct vessels during the night, in any part of this river; and even these have been but too often insufficient to save ships from destruction. But, in merchant-vessels, I fear we cannot always expect to find those qualities; and, therefore, I withhold my opinion of its being advisable for them to run in the night; neither can it be done by men of war without some risk.

Flores bears, by the world, W. 4° 30′ N. from Lobos, distant fifty-two miles. It lies nearly N.E. and S.W.; has a small hummock in the middle, and one at each end: that to the S.W. being thirty-nine feet high. Between these the land is low and marshy; and overflowed sometimes between the central and N.E. hummock. It may be seen at the distance of five or six leagues from a ship's deck in clear weather.

There is good anchorage all round this island; but a reef extends in a N.W. direction from the north point about a mile. Seals and sea-lions, and various aquatic birds, resort to this small island as well as to Lobos; and, in the months of August and September, great quantities of very excellent eggs may be procured. With the wind easterly, boats may land on the western side of Flores, particularly in a small cove, very near the S.W. part of the island. From Flores, W.N.W., the Caretas rocks (above water) are distant about five miles; and there are 5 fathoms between them. True south, at the distance of eleven miles from Flores, is the north part of the English Bank; on which, in that latitude, 35° 8′ S., there is about 12 feet water. The depth of water, between Flores and the English Bank, is 7 fathoms, all the way across, to within a very little distance of both. The English Bank, in latitude 35° 12′, generally breaks; and, with a low river, is above water in some places. Its extent, to the southward, has not yet been accurately defined; and, for seventy or eighty miles to the south-eastward of it, the ground is said to be foul and uneven, and has not been explored.

Between the Archimedes and the English Bank there is a swatch of 5 fathoms water, (according to Captain Beaufort, of the Royal Navy, who explored these banks in 1807,) and as many miles wide.

The shoalest part of the Archimedes' Bank, about 2¼ fathoms, is four miles in extent, about north and south by compass: and there are 4 fathoms all round it. The centre of it is in latitude 35° 12′ S., and the Mount Video bears N. 22° W., by the world from it, distance twenty miles. Besides this bank, there is a small knoll, in latitude 35° 14′ S., which is true south, from the Mount Video, twenty-one miles; and has not more than 3¼ fathoms of water on it, and about 4 fathoms all round it.

Passing to the southward of Flores, at the distance of a couple of miles, you have 6¼ or 7 fathoms, and may steer W. ¼ S. by compass, to pass Point Braba, which bears true W. 4° N., distant four leagues from the S.W. end of Flores. This point is bolder too than the land to the westward, between it and the town of Monte Video, and may be passed close, in 4¼ or 5 fathoms, at a mile or a mile and a half distance. The best anchorage for a frigate, off the town of Monte Video, is with Point Braba, bearing, by compass, W. by N. ½ N., the cathedral N.E. by N., and the Mount about N.W. by N.,

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in 3½ or 4 fathoms, two miles or more from the town, with the harbour quite open. The bottom is all soft mud.

The harbour of Monte Video is very shoal, having only from fourteen to nineteen feet water; but, the bottom is so very soft, that vessels receive no damage by grounding there. Captain Bouverie says, "A S.S.W. wind, which blows right into the harbour, and causes a good deal of sea, always occasions the water to rise a fathom or more.

"In a long continuance of fine weather, the tides sometimes assume the appearance of regularity: but this is not often the case. They are governed entirely by the winds. The winds from the southward cause the water to run out on the north shore strongest. Fine weather, and a N.W. wind, make the water lowest. It is usual, in Monte Video harbour, to have an anchor to the S.E., and another to the S.W., and to take one in abaft from the northward; for the water, forced in by the southerly wind, sometimes rushes out with astonishing rapidity; when the anchorage to the north is of the greatest service."

The Mount Video is in latitude 34° 53′ S., longitude 56° 3′ W. of Greenwich; being 1° 24′ W. of the island of Lobos, and 2° 10′ E. from the cathedral of Buenos Ayres. On the summit of this mount is a fortified building, whose base is forty-two feet six inches by twenty feet, used sometimes for a lighthouse.* The diameter of the lantern is ten feet six inches, and its elevation above the level of the sea four hundred and fifty feet. At the base of the mount are several runs of excellent water, particularly in two small, smooth, sandy bays on the S.W. part of it, where ships in the outer roads may supply themselves with ease; and another on the east side of the mount, just abreast of Rat Island, adapted to ships in the harbour.

Giving the preference to the passage on the north side of the English Bank, especially when the wind is any where between S.S.E. and N.N.E. on passing Lobos, because it may be expected most probably to shift, if it does at all, round by the north to the westward; though, perhaps, not before that wind, and the inset, together, might carry a ship up to Monte Video; yet if the wind should be to the north-westward at the time of making the land, it may be pretty confidently expected to shift next to the westward or S.W.; and therefore a ship should not strive to beat up, round Lobos and the north channel, against an out-set, but stand at once over towards Cape St. Antonio; where, by the time she could stretch across, she would, most likely, find a S.S.W. wind and N.W. current to run up with, along a weather shore, to Buenos Ayres; or to Monte Video, if bound thither, passing to the westward of the bank of Archimedes, in about 5 fathoms water; or, if the mount should be seen in good time, never to bring it to bear to the westward of North, by compass, till within five leagues of it.

In standing to the southward, from abreast of Cape St. Mary, with the wind south-westerly, a ship will have from 18 to 24 or 25 fathoms when in the latitude of Lobos, and about twelve or thirteen leagues to the eastward of it; and, making a S.S.E. course, the water will then shoal to 18, 16, 12, or 11, fathoms, in crossing the ridge, which is generally composed of sand, gray speckled, mixed with stones, hereabouts; after which the depth increases gradually to 35 or 36 fathoms, over a sandy bottom, in latitude 35° 40′ S., and longitude 53° 25′ W. In the latitude of 36° S., and fifteen or twenty miles further to the eastward, you will deepen off the bank entirely. A ship, having got as far to the southward as 36° S., may consider herself in the fair way for proceeding up on the south side of the English Bank; and, if the wind serve, a true West course may be made good.

In latitude 36° S. the depth of water on the meridian of Cape St. Mary is 38 fathoms; and the bottom fine gray sand, like ground pepper.

Keeping still to the westward, on that parallel of 36° S., the depth decreases to 19 or 18 fathoms, true South of Lobos; and for ten leagues farther you have from that to 15 fathoms. But if from the latitude of 36° S. on the meridian of Lobos, you make a W. by N., or W. by N. ½ N. course *true*, you will shoal the water to 8 or 7½ fathoms, in latitude 35° 45′ S., on the meridian of the English Bank. The quality of the bottom, generally, in this track, is sandy, mixed with small stones; and the nearer you approach to the ridge of the English Bank it is intermixed with bits of shells, and sometimes with clay or mud.

* A lantern, with lamps and reflectors, for Monte-Video, was prepared in London, by order of the Portuguese government, and shipped in May, 1819. It was then stated that the lighthouse was to be erected on the Isle Flores; but, on the 26th of October following, an official notice was issued from the British Admiralty, stating that the "lighthouse, which formerly stood upon the mountain, Monte-Video, had been *re-established*, and is to be lighted every evening." The light has, therefore, been materially improved.

From

From latitude 35° 45′ S., due S. of the English Bank, a W.N.W. true course to latitude 35° 33′ S. will bring the Mount Video to bear North by the world, in about 6¼ fathoms, mud, at the distance of thirteen leagues from Point Piedras: and from this position the same true course may be made to raise the land about Point del Indio, if bound up to Buenos Ayres; or N.W., or more northerly, to get sight of the Mount Video; having due regard to the set of the current, up or down the river, that you may neither be horsed on the S.E. tail of the Ortiz Flats, nor on the western part of the Archimedes' Bank. The bottom above this is soft mud, or clay, in the channels, fit for safe anchorage. In latitude 35° 30′ S., or thereabouts, and due South of the Archimedes' Bank, or some miles further to the eastward, I have been told by some persons they have had as little as 4 fathoms, hard ground.

Ships leaving Monte Video, to proceed up to Buenos Ayres, must be very attentive to the lead; and the course steered across the river must be very carefully regulated by the set of current at the time. If the weather be sufficiently clear, the Mount is the most sure guide, keeping it by an azimuth compass, on the magnetic bearing N.E. by N.; and when it sinks to an eye in the top, a more westerly course may be steered to raise the land about Point del Indio. This direction is intended to apply particularly to frigates, or any ships drawing more than sixteen feet water; because it is not advisable for them to cross the tail of the Ortiz Flats much further to the westward than a true S.W. course from the mount will take them; for, with a low river, I have had barely 3¼ fathoms, in the Nereus, with the mount bearing N. 35° E., by compass, distant ten leagues. At other times, I have sunk the mount on a N. 53° E. magnetic bearing, and had as much as 3¼ fathoms water; but the river was then well filled.

On the south-eastern part of the Ortiz Bank, which is there hard stony sand, there is still remaining (in 1813) part of a mast, or beacon, about twelve or thirteen feet high. It is in latitude 35° 2′ 15″ S., and 0° 45′ west of Mount Video; from which it bears W. 14° S. by the world, thirty-seven miles. There is about twelve or thirteen feet alongside of it; 3 fathoms two miles to the eastward of it; but not more than ten or twelve feet, as far as three miles S.W. of it. Point del Indio bears true S. 33° W., sixteen or seventeen miles from it.

For the distance of full seventeen miles to the south-eastward of the Ortiz Beacon, there is generally no more, and often less, than 3¼ fathoms; the bottom tough clay, nearest the bank; and in some places farther to the south-eastward, soft mud, not more than 3¼ fathoms.

After sinking the mount about N.E. by N., and having 3¼ fathoms, a W.S.W. course will raise the land (if the weather is clear) about Point del Indio to the eye at the mast-head; and probably you will not have more than 3¼, or, at best, 3½, fathoms. The mount and land near Point del Indio are sometimes visible at the same time.

Point del Indio is in latitude about 35° 16′ S. and 0° 56′ W. of the Mount Video, from which it bears S. 63° W. by the world, distant fifty miles. There is little more than 3 fathoms at the distance of ten or eleven miles, when the river is in a mean state; farther to the southward, and off Point Piedras, there is only that depth fourteen or fifteen miles off shore. Very great caution, therefore, is required in approaching it; and a constant look-out should be kept for the land, as it is very low, and cannot be seen farther than twelve or thirteen miles, in any weather, from the deck of a frigate.

When the land is barely raised to an eye nineteen or twenty feet above the surface of the water, a W.N.W. magnetic course will lead along-shore, between it and the south part of the Ortiz, which is distant about fourteen miles from it; and between them there is no where more water than 3¼, but mostly 3½, fathoms. With a high river, I have had a quarter-less 4 fathoms. The nearer the Ortiz, the deeper the water.

In steering up W.N.W. with the land seen from the deck, (if clear weather,) you will have 3¼ or 3½ fathoms, (yet if the river is low, perhaps some casts of 3 fathoms,) and raise a remarkable clump of trees, called Embudo; which are much taller than the rest, highest at the west end, and lie in latitude 35° 6′ S.; and in longitude 1° 16′ 30″ West of the Mount Video, or 0° 57′ 30″ East of the cathedral of Buenos Ayres. At some distance to the westward of the Embudo trees, there is another clump about the same height; but these being highest at the east end, are sufficiently distinguished not to be mistaken for the true Embudo.

When in 3¼ or 3½ fathoms, the Embudo trees bear by compass W.S.W.; the S.E. end of the Chico Bank will bear W.N.W. or thereabouts, ten or eleven miles from you; and you must now determine from the water your ship draws, and the then direction of the wind and state of the weather, whether you will pass between the Chico and the shore,

shore, or between the Ortiz and the Chico. I have passed up and down several times between the Chico and the south shore in the Nereus, lightened in her draft to eighteen feet three inches; but I would never attempt it again from choice, now I am better acquainted with the middle channel between the Chico and the Ortiz, and have every reason to believe that the middle ground, some Charts lay down in it, does not exist.

A ship not drawing more than fifteen feet may take either passage; and, of the two, ought perhaps to prefer that to the southward of the Chico Bank, particularly if the wind should be well to the southward, as she might take her soundings from the weather shore, and, keeping in somewhat more than her own draft, run up along it; and, by not deepening above 8 fathoms, would ensure being to the southward of the Chico.

The S.E. end of the Chico Bank bears from the Embudo trees N. 32° E. *true*, distant ten miles, and E. 9° N., thirteen miles from Atalaya church. Its latitude there is 34° 56′ 30″ S., and longitude 1° 9′ W. of the Mount Video. This bank runs in the direction of N. 52° W. *true*, or N. 65° W. by compass, about thirteen miles to its N.W. end, which is in latitude 34° 48′ 50″ S., and 0° 47′ East of Buenos Ayres' cathedral. From this N.W. end, in fourteen feet water, Atalaya church bears S. 14° W., distant eleven miles; and Point Santiago, forming the Ensenada de Barragan, bears W. 4° N. fourteen miles from it. The breadth of the Chico does not exceed two miles, or perhaps a mile and a half, and its inner edge is about nine miles from the shore. The water between it and the shore is no where more than 3¼ fathoms, and the deepest water is along the inner edge of the shoal, at the distance of half a mile from it, or less in some places. About midway between it and the shore there is a quarter-less 3 fathoms. On some parts of the Chico there is very little water, and within the limits I have assigned to it, no where more than fourteen feet. There was, for some years, the mast of a vessel, called the Pandora, which was wrecked on this shoal, in latitude 34° 54′ S., about five miles from its S.E. end, which proved an excellent beacon to guide ships passing it on either side; but it has disappeared. It is very necessary that three buoys should be placed on this dangerous shoal to mark its centre and each end.

To ships drawing less than fifteen feet, it is only further necessary to recommend care and attention on approaching Point St. Iago, which forms bushy and distinct; and when it is brought to bear to the south-westward, haul out into the stream of 3¼ fathoms, to round outside the Spit, which runs about N.W. by compass from Point St. Iago at least ten or eleven miles; its extreme point, in 2 fathoms, being about five miles from the shore. When two remarkable trees on Point Lara are brought to bear S. by E. ½ E., or S.S.E. by compass, you are past the Spit. This mark will also lead a ship of that draught of water clear to the westward of the Spit, in running in towards the Ensenada.

After passing the spit off Point St. Iago, in 3¼ fathoms, a W. by N. northerly course by compass will lead up to the outer road of Buenos Ayres, where any ship may safely anchor in the water she draws, if the river is low.

Frigates, or any vessels drawing more than sixteen feet water, should barely raise the land about Point del Indio to the eye on deck, and borrow nearest the Ortiz: more particularly when the Embudo trees are brought to bear as far as S.W. by W. (magnetic;) for, with the Embudo bearing from S.W. to S.S.W., the bottom is flat, off to 8 fathoms, full seven miles from the shore, and chiefly hard clay. Therefore, when the Embudo trees bear W.S.W. by compass, and you are about nine or ten miles off shore, in 3¼ fathoms, if you have a leading wind, haul to the N.W. by W., or more northerly, as may be required to clear the S.E. tail of the Chico, and you will soon deepen your water to 4 fathoms, and more, in the middle channel, between the Chico and the Ortiz Shoal. The fair course through, between them, is about N.W. by W. ½ W., (magnetic,) and in mid-channel the land can but just be distinguished from the quarter-deck of a frigate. When the Embudo trees bear S. 20° W. by compass, you will be abreast of the S.E. end of the Chico, and may either take your shoal soundings along its northern or outer edge, to about a quarter-less four, if the wind is southerly, or if the wind be northerly, or easterly, borrow into a convenient depth along the southern edge of the Ortiz. I believe the breadth of this middle channel may be five or six miles, and the depth of water from 4 to 5½, and even 6, fathoms, in the fair-way, about the N.W. part of it, and abreast that end of the Chico. The quality of the ground all the way through this channel is generally soft mud, and fit for safe anchorage.

The N.W. pitch of the Chico Bank being passed, and the depth of water 5 or 5½ fathoms, you may steer by compass W. by N. ½ N., or W. by N., for Buenos Ayres, taking

taking care not to shoal under quarter-less four, off Ensenada, till Point Lara trees bear S.S.E.

A little more than half way from Point Lara to Buenos Ayres there are two other remarkable trees. When moored off Buenos Ayres, in the Nereus, in 19 feet water, and the bottom soft mud, these trees bore, by compass, S. 17° E., the cathedral S. 67° W., and the spire of the Recoleta Convent S. 76° W.: the latitude observed was 34° 34′ 30″ S., and the longitude by the moon 58° 2′ West of Greenwich. Variation of the compass 12½° easterly, at the distance of eight miles from the cathedral.

Nereus, Buenos Ayres, July, 1813. P. HEYWOOD.

THE RIVER PLATA TO CAPE HORN, FALKLAND ISLANDS, SOUTH-SHETLAND, &c.

THE COAST of the PAMPAS, or PLAINS of BUENOS AYRES, extends from the River Plata to the Colorado or Red River, represented in latitude 39° 50′. It is entirely flat and destitute of harbours. The interior is one vast plain, mostly covered with grass and clover, the food of millions of horned cattle. The maritime part, next the sea, has been called, by the Spaniards, the *Pays del Diablo*, or *Devil's Country*, no very attractive appellation: yet the coast may be approached with safety, as the soundings are regular.

On the coast of the Indian country, and Patagonia, to the southward, there is not a single place of trade. The whole is occupied by various nomadic or wandering tribes, and the southern part is under a cold and cheerless climate. The latter was discovered, in 1519, by Fernando Magalhaens, whom we called Magallan, and who passed through the strait which bears his name, and which divides Patagonia from Tierra del Fuego.

TIERRA or TERRA DEL FUEGO has been repeatedly described by different navigators. It is a dreary country, distinguished by craggy mountains and barren isles. The inhabitants are a race of wretched savages, who subsist on the flesh of seals and other gross substances: their dwellings are tents, rudely formed with poles, and covered with skins, or the bark of trees. A chain of stupendous rocks, extending through great part of the country is continually covered with snow.

The STRAIT of LE MAIRE, between Tierra del Fuego and Staten Island, was so named from the navigator who discovered it, in 1616. It is said, in the narrative of Anson's Voyage, that it is difficult to determine exactly where the strait lies, though the appearance of Terra del Fuego be well known, without knowing also the appearance of Staten Land; and that some navigators have been deceived by three hills on Staten Land, which have been mistaken for the *Three Brothers* on Terra del Fuego, and so overshot the strait. But Captain Cook says, no ship can possibly miss the strait that coasts Terra del Fuego within sight of land, for it will then of itself be sufficiently conspicuous; and Staten Land, which forms the eastern side, will be still more manifestly distinguished, for there is no land on Terra del Fuego like it. The Strait of Le Maire can be missed only by standing too far to the eastward, without keeping the land of Terra del Fuego in sight: if this be done, it may be missed, however accurately the appearance of the coast of Staten Land may have been exhibited; and if this be not done, it cannot be missed, though the appearance of that coast be not known. The entrance of the strait should not be attempted but with a fair wind and moderate weather, and upon the very beginning of the tide of flood, which happens here, at the full and change of the moon, about one o'clock. It is always best to keep as near to the Terra del Fuego shore as the winds will admit. By attending to these particulars a ship may get quite through the strait in one tide; or, at least, to the southward of Success Bay, into which it would be more prudent to put, if the wind should be southerly, than to attempt the weathering of Staten Land with a wind and lee current, which may endanger her being driven on that island. *(Cook's First Voyage.)*

The BAY of GOOD-SUCCESS, or SUCCESS BAY, is the place within which, in the year 1769, Mr. Banks and Dr. Solander found the cold so intense, that the latter had nearly fallen a sacrifice to its severity, though in the midst of summer. Dr. Solander, who had more than once crossed the mountains which divide Sweden from Norway, well knew that

that extreme cold, especially when joined with fatigue, produces a torpor and sleepiness which are almost irresistible: he therefore conjured the company to keep moving, whatever pain it might cost them, and whatever relief they might be promised by an inclination to rest: "Whoever sits down," says he, "will sleep; and whoever sleeps will wake no more." The doctor, who gave this advice, was the first who yielded to the sensation which he had described; but, by exertion, he was saved: two other persons perished.*

HERMITE'S ISLES, FALKLAND ISLES, SOUTH-SHETLAND, &c.

These islands have already been described in the Notes to the Tables, pages 33 to 36, and 43; Southern Georgia, page 36; Sandwich Land, page 37; and South-Shetland, page 38. With respect to the latter, it may be added that, about twelve months after its first discovery, the British naval commander-in-chief, on the South-American station, directed a farther exploration; and for this purpose a hired brig, the *Slaney*, was sent, under the command of Mr. Edw. Barnsfield. "We sailed," says the reporter, "from Valparaiso on the 20th of December, 1819, but did not arrive on cruising ground till the 16th of January, 1820, having been almost constantly harassed with baffling winds and calms till we arrived in a high southern latitude. On that day, however, we had the good fortune to discover the land to the south-eastward, extending on both bows as far as the eye could reach. At a distance, its limits could scarcely be distinguished from the light white clouds which floated on the tops of the mountains. Upon a nearer approach, however, every object became distinct. The whole line of coast appeared high, bold, and rugged; rising abruptly from the sea, in perpendicular snowy cliffs, except here and there where the naked face of a barren black rock showed itself amongst them. In the interior, the land, or rather the snow, sloped gradually and gently upwards into high hills, which appeared to be situated some miles from the sea. No attempt was made to land here, as the weather became rather threatening, and a dense fog came on, which soon shut every thing from our view at more than a hundred yards distance. A boat had been sent away, in the mean time, to try for anchorage; but they found the coast completely surrounded by dangerous sunken rocks, and the bottom so foul, and the water so deep, that it was not thought prudent to go nearer the shore in the brig, especially as it was exposed to almost every wind. The boat brought off some seals and penguins, which had been shot among the rocks; but they reported them to be the only animated objects they had discovered. The latitude of this part of the coast was found to be 62° 26′ S., and its longitude to be 60° 54′ W.

"Three days after this we discovered and anchored in an extensive bay, about two degrees farther to the eastward, where we were enabled to land, and examine the country. Words can scarcely be found to describe its barrenness and sterility. Only one small spot of land was discovered on which a landing could be effected upon the main; every other part of the bay being bounded by the same inaccessible cliffs which we had met with before. We landed on a shingle-beach, on which there was a heavy surf beating, and from which a small stream of fresh water ran into the sea. Nothing was to be seen but the rugged surface of barren rocks, upon which myriads of sea-fowls had laid their eggs, and which they were then hatching. These birds were so little accustomed to the sight of any other animal, that, so far from being intimidated by our approach, they even disputed our landing, and we were obliged forcibly to open a passage for ourselves through them. They consisted, principally, of four species of the penguin, with albatrosses, gulls, pintadoes, shags, sea-swallows, and a bird about the size and shape of a common pigeon, and of a milk-white plumage, the only species we met with that was not web-footed. We also fell in with a number of the animals described in Anson's Voyage, as the sea-lion, and said by him to be so plentiful at Juan Fernandez, many of which we killed. Seals were, also, pretty numerous; but, though we walked some distance into the country, we could observe no trace either of inhabitants or of any terrestrial animal. It would be impossible, indeed, for any but beasts of prey to subsist here, as we met with no sort of vegetation, except here and there small patches of stunted grass growing upon the surface of the thick coat of dung which the sea-fowls left in the crevices of the rocks, and a species of moss, which occasionally we met with adhering to the rocks themselves. In short, we traced the land nine or ten degrees east and west, and about three degrees north and south, and found its general appear-

* See Cook's First Voyage, date 16th January, 1769.

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since always the same; high, mountainous, barren, and universally covered with snow, except where the ragged summits of a black rock appeared through it, resembling a small island in the midst of the ocean; but, from the lateness of the season, and the almost constant fogs in which we were enveloped, we could not ascertain whether it formed part of a continent, or was only a group of islands. If it be insular, there must be some of an immense extent, as we found a gulf nearly 150 miles in depth, out of which we had some difficulty in finding our way back again."*

The report concludes with some general remarks on the advantages of the discovery; and stating that the ship was daily surrounded with whales, multitudes of the finest fur-seals, and sea-lions.

SOUTH-ICELAND.—Captain Cook's conjecture as to the existence of a southern continent seems to be realized; a very extensive land having been discovered in the parallel, and to the eastward, of South-Shetland. The only description of it, which we have yet seen, is vague and imperfect, and the particulars too scanty for a delineation on the Chart. They have been given in an American newspaper, of 1822, as follow.

"We have been favoured with interesting particulars respecting a southern continent, by Captain Nathaniel B. Palmer, of the sloop James Monroe, lately arrived at Stonington from South-Shetland.

"Captain Palmer proceeded in the James Monroe, from the Shetland Isles to the continent [South Iceland], and coasted it, from abreast of the isles to the eastward, as far as 44° West longitude, keeping as near to the shore as the edge of firm ice would admit. At some places, he could coast along-shore; at other parts he could not approach nearer the shore than from one to five or six leagues, owing to the firm and fast ice; although it was midsummer there at the time, being in November, December, and January.

"In 61° 41′ South latitude, and 45° 27′ West longitude from Greenwich, the coast was clear of firm ice, and here they discovered a fine harbour, lying about one mile within the entrance of *Washington Strait*, which harbour was named *Palmer's Harbour*, where he came to anchor. He found not the least appearance of vegetation on the land, excepting the winter moss. Neither did he here discover any animals, only a few sea-leopards, beautifully spotted. Of birds there were penguins, Port Egmont or sea-hens, white pigeons, and gulls.

"There is no doubt that there exists a southern continent, and that Captain Cook's '*Southern Thule*' belongs to it. Captain Palmer could discern mountains covered with snow, in the interior, as he sailed along the coast."

PASSAGE FROM RIO DE JANEIRO TO CAPE HORN, IN SEARCH OF THE ISLA GRANDE, &c.

The following extract, from Captain Colnett, must be interesting to every navigator traversing this Ocean.

"On leaving Rio Janeiro, I stood away to the southward and eastward to search for the Island Grand, which is said to lie in the latitude of 45° South, and was the first object recommended to me by the Board of Admiralty. On the 17th of March, at noon, latitude by observation 39° 33′ South; longitude, by the mean of chronometers, 34° 21′ West; and, by account, 34° 25′; variation, 9° East. The sea appeared of a pale green, and we saw many birds, some of which were said, by several of my people, to be of those kinds which are supposed to indicate the vicinity of land; such as sand-larks, and a large species of curlew; but neither of the latter kinds of birds were seen by me. From noon of the 17th, until six in the evening, the wind blew from the south-south-east, and we stood away to the southward and westward: it then became calm, and continued so till midnight, when it blew from the north-west, being, at this time, in the situation which I had often heard my old commander, Captain Cook, mention, as the position of the Isle of Grand; I accordingly entertained great expectations of seeing it, more especially as the birds appeared in great numbers during the whole of the day. In the evening, we stood away to the southward, in which direction I continued

* It is to be regretted that this description is so vague. A gulf, 150 miles in depth, and yet totally undefined; without terminating points, or any given direction.—Ed.

tinued my course for the night. At day-light, on the 18th, the surface of the water was covered with feathers; and frequently in the forenoon we passed several birch-twigs, as well as quantities of drift-wood and sea-weed. These appearances continued until noon of the same day, when our observation was in latitude 40° 12′ South; longitude, by observation of sun and moon, 35° 34′ West; and, by mean of chronometers, 34° 8′. At this time the appearance of the sea had changed to a dirty green; which could not be the effect of the sky, as it was very clear: those tokens of land induced me to heave-to, and try for soundings with a hundred and fifty fathoms of line, but got no bottom: we had no sooner got the lead in, when, to our great astonishment, at three or four miles distance from us, the whole horizon was covered with birds of the blue petrel kind. At the same time black whales were seen spouting in every direction, and the boats pursued one to harpoon it, but without success. Indeed, we were not very solicitous to kill black whales, and willingly gave up the chase at this time, to make all the sail we could, and to exert our utmost efforts, in order, if possible, to discover the land before night; which every one on board had possessed themselves with the idea of seeing, although at such a considerable distance from the latitude in which it was supposed to lay.

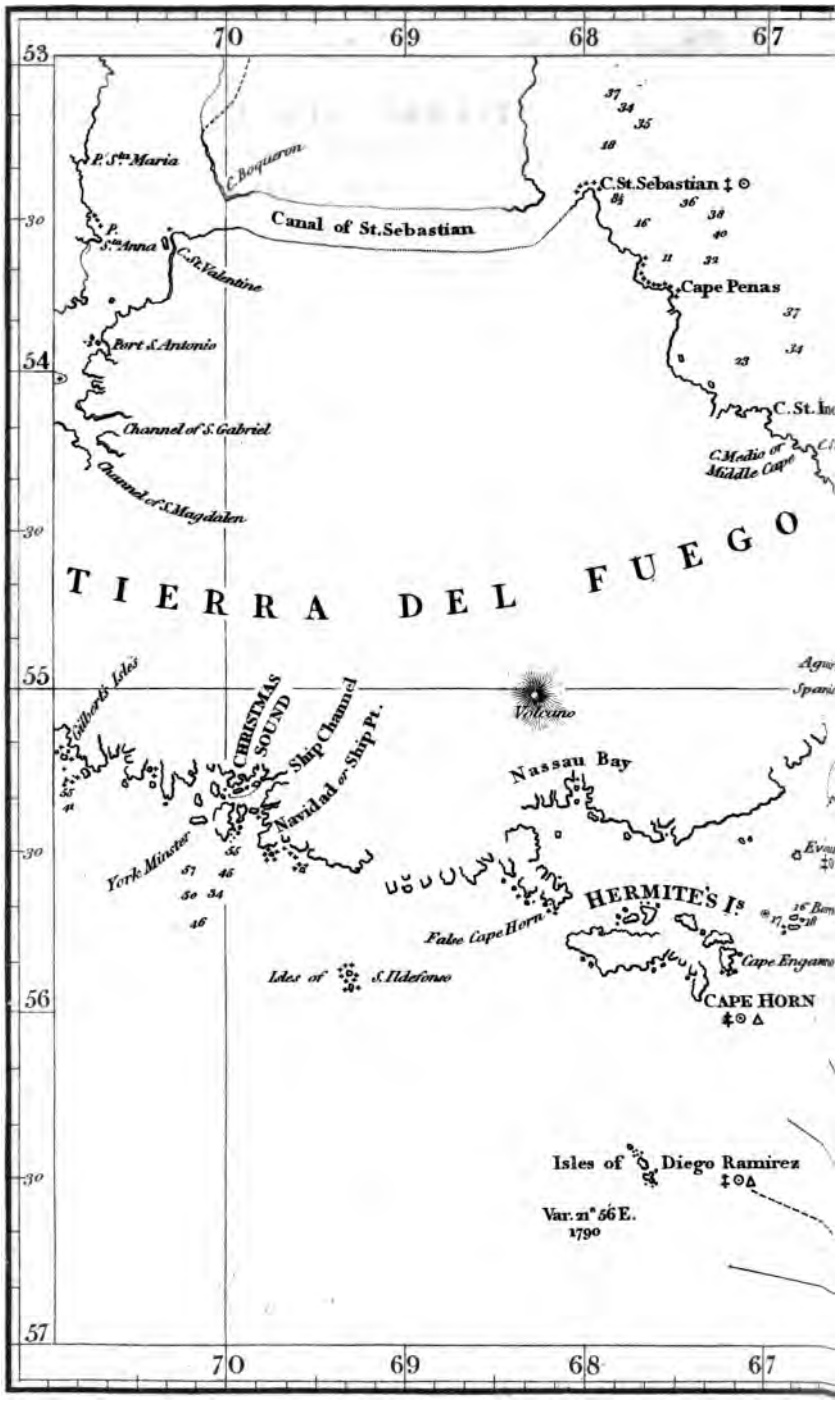
"During this afternoon we passed several fields of spawn, which caused the water to wear the appearance of barely covering the surface of a bank. At sun-set we could see as far as twelve or fourteen leagues; but did not perceive any other signs of land than the great flight of birds which continued to accompany us, and they were so numerous at times, that, had they all been on the wing together, and above us, instead of rising in alternate flocks and skimming after the whales, the atmosphere must have been altogether darkened by them. And the number of whales in sight presented a fair opportunity of making a profitable voyage in the article of black oil; but my predominant object was to fulfil the particular services recommended to me by the Lords of the Admiralty; and in one point I had, at this moment, the most flattering hopes of succeeding.

"Towards the evening, the barometer fell, and the weather began to be cloudy: but I continued standing to the southward with a fresh breeze till midnight, when we hove-to and sounded; but did not find ground with one hundred and seventy fathoms of line. The gale was increasing every hour with a heavy sea; and, by day-light, we could carry only close-reefed top-sails and fore-sail. The weather was dark and hazy, the sea assumed a deep lead-colour, many birds and whales remained with us, and we passed large quantities of sea-weed. At noon we were in the latitude of 43° 3′ South, and longitude 35° 38′ West. Here we sounded, but found no bottom: nevertheless, every circumstance strengthened our conjectures that we were nearing the land, which induced me to proceed on my course, although it continued to blow hard from west-north-west. At midnight we hove-to, and sounded with one hundred and seventy fathoms of line, but found no bottom. At day-light we sounded again with two hundred fathoms of line, and were equally unsuccessful. We now made sail, and at noon our latitude was 44° 51′; longitude, by observation, 34° 59′; and, by mean of chronometers, 33° 53′ 30″ West.

"The birds lessened greatly in numbers, and with them our hopes of finding the land, which was the object of our search. I continued, however, to cruize about for several successive days near this longitude, but saw nothing to encourage any further endeavours.

"The season was now far advanced for doubling Cape Horn, and it appeared to me, that the most rational course I could take, would be to run down west to the main land of Patagonia, in the latitude in which the Isle of Grand is placed: as we were now to the eastward of Mr. Dalrymple's position of it: so that if it was not found in that latitude, I might, on my return, search for it in the latitude of 40° and 41°, having strong reason to believe that there is land in or near those latitudes, but to the eastward of the longitude which I crossed; as, otherwise, I am at a loss to account for such a quantity of birch-twigs, sea-weed, drift-wood, and birds, as were seen in that situation. Some of these birds, appeared to be quite young, from the difficulty with which they seemed to use their wings; though that circumstance, it is possible, might have proceeded from their being gorged with sea-blubber, with which the surface of the water was covered.

"From the land discovered by Monsieur La Roche, in latitude 55° South, which I touched at with Captain Cook, in the year 1771, who named it Georgia, I am disposed to believe that the Isle of Grand also exists, and that my not being able to find it, arose



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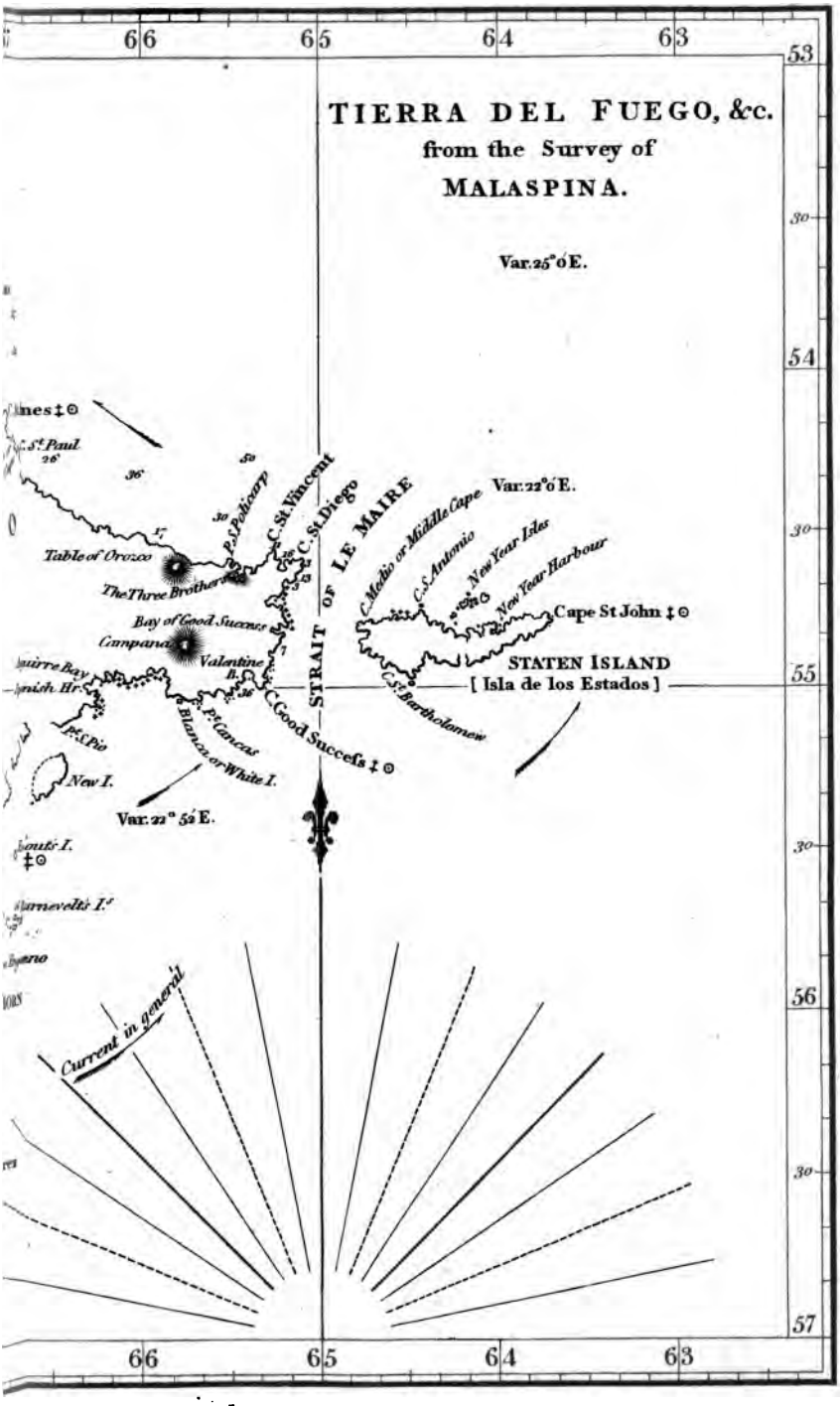

Fleet Street, London, 22nd July, 1822.

arose from an error in copying the latitude given by La Roche : nor can I doubt, from the quantity of whales I perceived near its supposed situation, that it would prove a much greater acquisition than the Island of Georgia, to which many profitable voyages had been made for seal-skins alone.

"This route, however, will be of some advantage to British navigators; even if no land should be discovered according to our expectations, as it will tend to undeceive the masters and owners of whalers, who have entertained an opinion that the black whale was never to be found in bodies, so far to the eastward: for, if half the whalers belonging to London had been with me, they might have filled their vessels with oil."

Captain Colnett subsequently proceeded to the N.W. of Falkland Islands; and, on the 9th April, 1793, struck soundings there in 65 fathoms. The ship then stood for Cape St. John, the eastern end of Staten Island. The winds to this place were variable, N.W., South, S.E., East, and N.E.; the greatest depth at which bottom was found, 90 fathoms; then no bottom at 150. On the 13th, at day-light, the isles of Diego Ramirez were passed at the distance of three or four leagues.

On the NAVIGATION AROUND CAPE HORN, Captain Colnett has made the following remarks.

"I have doubled Cape Horn in different seasons; but, were I to make another voyage to this part of the globe, and could command my time, I would most certainly prefer the beginning of winter, or even winter itself, with moon-light nights; for, in that season, the winds begin to vary to the eastward; as I found them, and as Captain Macbride observed at the Falkland Isles. Another error, which, in my opinion, the commanders of vessels bound round Cape Horn commit, is, by keeping between the Falkland Isles and the main, and through the strait of Le Maire; which not only lengthens the distance, but subjects them to a heavy irregular sea, occasioned by the rapidity of the current and tides in that channel, which may be avoided by passing to the eastward. At the same time, I would recommend them to keep near the coasts of Staten Land and Terra del Fuego, because the winds are more variable in with the shore than at a long offing.

"If it should be observed that a want of wood and water may render it necessary for vessels to stop in the Strait of Le Maire, I shall answer that there is plenty of water at the Falkland Isles, and Staten Island not only abounds in both, but possesses several excellent harbours. I first visited this place with Captain Cook, in the year 1774; and, on my outward-bound passage to the north-west coast of America, in the year 1786, as commander of the merchant-ship Prince of Wales, I wooded and watered there, and left a party to kill seals. For my own part, I do not perceive the necessity, according to the opinion of different navigators, of going to 60° S. I never would myself exceed 57° 30′, to give the Isle of Diego Ramirez a good berth; or, if winds and weather would permit, make it, for a fresh departure, had I not taken one at Cape St. John, Staten Land, or the east end of Falkland Isles. Staten Land is well situated as a place of rendezvous, both for men of war and merchant-ships; while the harbours on the north and south sides, which are divided by a small neck, would answer the purpose of ships bound out or home. The north side offers the best place for an establishment."

The French captain, La Pérouse, passed through the Strait of Le Maire in February, 1785, when the flood carried the ships violently to the southward. The horizon was so foggy towards the east that Staten Island was not seen; but, on the shore of Terra del Fuego, by telescopes, the natives were seen lighting fires, as an invitation to the shore. Captain Perouse says, "I doubled Cape Horn with much greater facility than I expected: though I am convinced that this navigation is not more hazardous than any other in these high latitudes. The dangers we dreaded were only the chimerical offspring of an antient prejudice, which ought no longer to exist, and which the reading of Anson's Voyage contributes not a little to support.

The Russian commander, Otto Von Kotzebue, passed Cape Horn in the month of January, 1816; he proceeded to the west of the Falkland Isles, and eastward of Staten Land. "The 16th of January, in latitude 49° 5′, long. 68° 31′, a fresh north wind, with beautiful weather, brought us nearer to Cape Horn; at noon we sounded, and found 60 fathoms water, over a bottom of gray sand. On the 19th, at eight o'clock, *a. m.*, we descried Cape St. John, at the distance of forty miles; at noon, the weather being very fine, the frightful country of Staten Land appeared. Cape St. John lay S. 12° W.

S. 12° W. twenty-five miles distant: the current set strongly to the E.N.E.* Towards midnight we had doubled Staten Land; the wind blew strong from the north. I bent my course to the S.S.W., in order, for security, to keep distant from the shore; and, contrary to the custom of other navigators, I took then a more westerly course, to double Cape Horn as sharp as possible. On the 22d, at four a. m. we crossed the meridian of Cape Horn, in 57° 33′ S., which was evidently a great advantage to us; as we had not gone so far to the south as others used to do.† We were surrounded by whales, dolphins, and albatrosses. While we were doubling Cape Horn, we were encountered by high storms from S.W., which continued several days, and it was not till the 1st of February that we succeeded in passing the latitude of Cape Victoria. We triumphed; for now we had no fear of being driven back by westerly storms."

Captain Cook‡ says, "It may still be questioned whether it is better to go through the Strait of Le Maire, or stand to the eastward, and go round Staten Land." The advice given in the account of Anson's Voyage is, "That all ships bound to the South-Seas, instead of passing through the Strait of Le Maire, should constantly pass to the eastward of Staten Land, and should be invariably bent on running to the southward as far as the latitude of 61 or 62 degrees, before they endeavour to stand to the westward." But, in my opinion, different circumstances may at one time render it eligible to pass through the Strait, and to keep to the eastward of Staten Land at another. If the land is fallen in with to the westward of the Strait, and the wind is favourable for going through, I think it would be very injurious to lose time by going round Staten Land; as I am confident that, by attending to the directions which I have given, the Strait may be passed with the utmost safety and convenience; but if, on the contrary, the land is fallen in with to the eastward of the Strait, and the wind should prove tempestuous and unfavourable, I think it would be best to go round Staten Land. But I cannot, in any case, concur in recommending the running into the latitude of 61 or 62 degrees, before any endeavour is made to stand to the westward. We found neither the current nor the storms which the running so far to the southward is supposed necessary to avoid; and, indeed, as the winds almost constantly blow from that quarter, it is scarcely possible to pursue the advice. The navigator has no choice but to stand to the southward, close upon a wind; and, by keeping upon that tack, he will not only make southing but westing; and, if the wind varies towards the north of the west, his westing will be considerable. It will, indeed, be highly proper to make sure of a westing sufficient to double all the lands, before an attempt is made to the northward, and to this every man's own prudence will, of necessity, direct him."

CAPE HORN TO VALPARAISO.

In December, 1774, Captain Cook, on his return from his second voyage, made Landfall Island, off the western coast of Terra del Fuego, whence he proceeded to the S.E. and eastward, and described the coast as follows:

Cape Glocester.—"Cape Glocester shows a round surface of considerable height, and has much the appearance of being an island. It lies *S.S.E. ½ E. true*, distance seventeen leagues from Landfall Island. The coast between forms two bays, strewed with rocky islets, rocks, and breakers. The coast appeared broken, with many islets, or rather it seemed to be composed of a number of islands. The land is very mountainous, rocky, and barren, spotted here and there with tufts of wood. From Cape Glocester, off which lies a small rocky island, the direction of the coast is nearly *S.E. true*; but to Cape Noir, [*Cape Negro* or *Black Cape*,] for which we steered, the course is about *S.S.E. true*, distant about ten leagues.

* The north-easterly currents indicated on the Chart have been so indicated from the information of Mr. L. Frazier, who states that they appear much stronger near the land than farther out. These are readily enough accounted for from the West and S.W. winds of the Antarctic Ocean. Edit.

† This confirms the opinion and advice of Captain Colnett, as given above.——Ed.

‡ First Voyage, 1769.

"At

"At three o'clock we passed Cape Noir, which is a steep rock, of considerable height, and the S.W. point of a large island, that seemed to lie detached, a league, or a league and a half, from the main land. The land of the Cape, when at a distance from it, appeared to be an island disjoined from the other; but, on a nearer approach, we found it connected by a low neck of land. At the point of the Cape are two rocks; the one peaked, like a sugar-loaf, the other not so high, and shewing a rounder surface; and *S. by E.* (*true*,) two leagues from the Cape are two other rocky islets. (This Cape is situated as shown in the Table, page 40.)

"After passing the two islets, we steered *E.S.E. true*, crossing the great Bay of St. Barbara. We but just saw the land in the bottom of it, which could not be less than seven or eight leagues from us. There was a space lying in the direction of *E.N.E.* (*true*) from Cape Noir, where no land was to be seen; this may be the channel of St. Barbara, which opens into the Strait of Magallan, as mentioned by Frezier. We found the Cape to agree very well with his description, which shows that he laid down the channel from good memoirs. At ten o'clock, drawing near the S.E. point of the bay, which lies nearly in the direction of *S. 60° E. true*, from Cape Noir eighteen leagues distant, we shortened sail, and spent the night standing off and on.

"At two o'clock in the morning of the 19th December, having made sail, we steered *S.E. by E. (true)* along the coast, and soon passed the S.E. point of the bay of St. Barbara, which I called *Cape Desolation*, because near it commenced the most desolate country I ever saw. It is situated in the latitude of 54° 55′ S. longitude 72° 12′ W. About four leagues to the east of this Cape is a deep inlet, at the entrance of which is a pretty large island, and some others of less note. At ten o'clock, being about a league and a half from the land, we sounded, and found 60 fathoms of water, a bottom of small stones and shells.

"The wind, which had been fresh at N. by W., began to abate, and at noon it fell calm, when we observed in latitude 55° 20′ S. longitude made from Cape Deseada 3° 24′ E. In this situation we were about three leagues from the nearest shore, which was that of an island. This I named *Gilbert Isle*, after my master. It is nearly of the same height with the rest of the coast, and shews a surface composed of several peaked rocks, unequally high. A little to the S.E. of it are some smaller islands, and without them, breakers.

"I have before observed that this is the most desolate coast I ever saw; it seems entirely composed of rocky mountains, without the least appearance of vegetation. These mountains terminate in horrible precipices, whose craggy summits spire up to a vast height, so that hardly any thing in nature can appear with a more barren and savage aspect than the whole of this country. The inland mountains were covered with snow, but those on the sea-coast were not. We judged the former to belong to the main of Terra del Fuego, and the latter to be islands, so ranged as apparently to form a coast.

"After three hours calm we got a breeze at S.E. by E., and having made a short trip to south, stood in for the land; the most advanced point of which, that we had in sight, bore *East*, (*true*) distant ten leagues. This is a lofty promontory, lying E.S.E. nineteen leagues from Gilbert Isle, and situated in latitude 55° 26′ S., longitude 70° 25′ W. Viewed from the situation we were now in, it terminated in two high towers; and within them a hill shaped like a sugar-loaf. This wild rock, therefore, obtained the name of *York Minster*. Two leagues to the westward of this head appeared a large inlet, the west point of which, we fetched in with by nine o'clock, when we tacked in 41 fathoms water, half a league from the shore; to the westward of this inlet was another, with several islands lying in the entrance.

"During the night between the 19th and 20th, we had a little wind easterly, which in the morning veered to N.E. and N.N.E., but it was too faint to be of use; and at ten we had a calm, when we observed the ship to drive from off shore out to sea. We had made the same observation before. This must have been occasioned by a current, and the melting of the snow increasing, the inland waters will cause a stream to run out of most of these inlets. At noon we observed, in latitude 55° 39′ 30″ S., York Minster then bearing *N. 15° E.* (*true*) distant five leagues; and a round hill, just peeping above the horizon, which we judged to belong to the isles of St. Ildefonso, *E. 25° S.* (*true*,) ten or eleven leagues distant. At ten o'clock a breeze springing up at E. by S. I took this opportunity to stand in for the land, being desirous of going into one of the many ports which seemed open to receive us, in order to take a view of the country, and to recruit our stock of wood and water."

CHRISTMAS

CHRISTMAS SOUND.—"In standing in for an opening, which appeared on the east side of York Minster, we had 40, 37, 50, and 60, fathoms of water, a bottom of small stones and shells. When we had the last soundings, we were nearly in the middle between the two points that form the entrance to the inlet, which we observed to branch into two arms, both of them lying in nearly north, and disjoined by a high rocky point. We stood for the eastern branch, as being clear of islets; and, after passing a black rocky one, lying without the point just mentioned, we sounded, and found no bottom with a line of 170 fathoms. This was altogether unexpected, and a circumstance that would not have been regarded, if the breeze had continued; but, at this time, it fell calm, so that it was not possible to extricate ourselves from this disagreeable situation. Two boats were hoisted out, and sent a-head to tow; but they would have availed little, had not a breeze sprung up about eight o'clock at S.W., which put it in my power either to stand out to sea or up the inlet. Prudence seemed to point out the former, but the desire of finding a good port, and of learning something of the country, getting the better of every other consideration, I resolved to stand in; and, as night was approaching, our safety depended on getting to an anchor. With this view we continued to sound, but always had an unfathomable depth.

"Hauling up under the east side of the land which divided the two arms, and seeing a small cove a-head, I sent a boat to sound; and we kept as near the shore as the flurries from the land would permit, in order to be able to get into this place, if there should be anchorage. The boat soon returned, and informed us that there was 30 and 25 fathoms of water, a full cables' length from the shore; here we anchored in 30 fathoms, the bottom sand and broken shells; and carried out a kedge and hawser to steady the ship for the night.

"The morning of the 21st was calm and pleasant. After breakfast I set out with two boats to look for a more secure station. We no sooner got round, or above the point, under which the ship lay, than we found a cove, in which was anchorage in 30, 20, and 15, fathoms, the bottom stones and sand. At the head of the cove was a stony beach, a valley covered with wood, and a stream of fresh water; so that there was every thing we could expect to find in such a place, or rather more, for we shot three geese out of four that we saw, and caught some young ones, which we afterwards let go.

"After discovering and sounding this cove, I sent Lieutenant Clerke, who commanded the other boat, on board, with orders to remove the ship into this place, while I proceeded farther up the inlet. I presently saw that the land we were under, which disjoined the two arms, as mentioned before, was an island, at the north end of which the two channels united. After this I hastened on board, and found every thing in readiness to weigh, which was accordingly done, and all the boats sent a-head to tow the ship round the point. But, at that moment, a light breeze came in from the sea too scant to fill our sails, so that we were obliged to drop the anchor again, from fear of falling upon the point, and to carry out a kedge to the windward. That being done, we hove up the anchor, warped up to and weighed the kedge, and, proceeding round the point under our stay-sails, there anchored with the best bower in 20 fathoms; and moored with the other bower, which lay to the north, in 13 fathoms. In this position we were shut in from the sea by the point above mentioned, which was in one with the extremity of the inlet to the east. Some islets, off the next point above us, covered us from the N.W., from which quarter the wind had the greatest fetch, and our distance from the shore was about one-third of a mile.

"Thus situated, we went to work, to clear a place to fill water, to cut wood, and to set up a tent for the reception of a guard, which was thought necessary, as we had already discovered that, barren as this country is, it was not without people, though we had not yet seen any. Mr. Wales also got his observatory and instruments on shore; but it was with the greatest difficulty he could find a place of sufficient stability, and clear of the mountains, which every where surrounded us, to set them up in, and at last he was obliged to content himself with the top of a rock not more than nine feet over.

"Next day I sent Lieutenants Clerke and Pickersgill, accompanied by some of the other officers, to examine and draw a sketch of the channel on the other side of the island; and I went myself in another boat, accompanied by the botanists, to survey the northern parts of the sound. In my way I landed on the point of a low isle, covered with herbage, part of which had been lately burnt; we likewise saw a hut, signs sufficient that people were in the neighbourhood. After I had taken the necessary bearings,

ings, we proceeded round the east end of Burnt Island, and over to what we judged to be the main of Terra del Fuego, where we found a very fine harbour encompassed by steep rocks of vast height, down which ran many limpid streams of water; and at the foot of the rocks some tufts of trees, fit for little else but fuel.

"This harbour, which I shall distinguish by the name of *Devil's Basin*, is divided, as it were, into two, an inner and an outer one, and the communication between them is by a narrow channel 5 fathoms deep. In the outer basin I found 13 and 17 fathoms of water, and in the inner 17 and 23 fathoms. This last is as secure a place as can be, but nothing can be more gloomy. The vast height of the savage rocks which encompass it, deprived great part of it, even on this day, of the meridian sun. The outer harbour is not quite free from this inconvenience, but far more so than the other; it is also rather more commodious, and equally safe. It lies in the direction of north, a mile and a half distant from the east end of Burnt Island. I likewise found a good anchoring-place a little to the westward of this harbour, before a stream of water that comes out of a lake or large reservoir, which is continually supplied by a cascade falling into it.

"Leaving this place, we proceeded along the shore to the westward, and found other harbours, which I had not time to look into. In all of them is fresh water, and wood for fuel; but, except these little tufts of bushes, the whole country is a barren rock, doomed by nature to everlasting sterility. The low islands, and even some of the higher, which lie scattered up and down the sound, are indeed mostly covered with shrubs and herbage, the soil of black rotten turf, evidently composed, by length of time, of decayed vegetables.

"I had an opportunity to verify what we had observed at sea, that the sea-coast is composed of a number of large and small islands, and that the numerous inlets are formed by the junction of several channels; at least so it is here. On one of these low islands we found several huts, which had lately been inhabited; and near them was a good deal of celery, with which we loaded our boat, and returned on board at seven o'clock in the evening. In this expedition we met with little game; one duck, three or four shags, and about that number of rails, or sea-pies, being all we got. The other boat returned on board some hours before, having found two harbours on the west side of the other channel; the one large, and the other small, but both of them safe and commodious; though, by the sketch Mr. Pickersgill had taken of them, the access to both appeared rather intricate.

"Having fine pleasant weather on the 23d, I sent Lieutenant Pickersgill in the cutter to explore the east side of the sound, and went myself in the pinnace to the west side, with an intent to go round the island, under which we were at anchor, (and which I shall distinguish by the name of *Shag Island*,) in order to view the passage leading to the harbours Mr. Pickersgill had discovered the day before, on which I made the following observations: In coming from sea, leave all the rocks and islands lying off and within York Minster on your larboard side; and the black rock, which lies off the south end of Shag Island, on your starboard; and, when abreast of the south end of that island, haul over for the west shore, taking care to avoid the beds of weeds you will see before you, as they always grow on rocks; some of which I have found 12 fathoms under water; but it is always best to keep clear of them. The entrance to the large harbour, or *Port Clerke*, is just to the north of some low rocks lying off a point on Shag Island. This harbour lies in *W. by S.*, (*true*,) a mile and a half, and hath in it from 12 to 24 fathoms depth, wood and fresh water. About a mile without, or to the southward of Port Clerke, is, or seemed to be, another, which I did not examine. It is formed by a large island, which covers it from the south and east winds. Without this island, that is, between it and York Minster, the sea seemed strewed with islets, rocks, and breakers.

* * * * * * * * * *

"The festival, which we celebrated at this place, occasioned my giving it the name of Christmas Sound. The entrance, which is three leagues wide, is situated in the latitude of 55° 27′ S., longitude 70° 16′ W.; and in the direction of *N. 37° W. (true)* from the Isles of St. Ildefonso, distant ten leagues. These isles are the best land-mark for finding the sound. York Minster, which is the only remarkable land about it, will hardly be known by a stranger, from any description that can be given of it, because it alters its appearance according to the different situations it is viewed from. Besides the black rock, which lies off the end of Shag Island, there is another, about midway between this and the east shore. A copious description of this sound is unnecessary, as few would be benefitted by it. Anchorage, tufts of wood, and fresh water, will be found

found in all the coves and harbours. I would advise no one to anchor very near the shore for the sake of having a moderate depth of water, because there I generally found a rocky bottom.

"The refreshments to be got here are precarious, as they consist chiefly of wild fowl, and may probably never be found in such plenty as to supply the crew of a ship; and fish, so far as we can judge, are scarce. Indeed, the plenty of wild-fowl made us pay less attention to fishing. Here are, however, plenty of muscles, not very large, but well tasted; and very good celery is to be met with on several of the low islets, and where the natives have their habitations."

The STRAIT OF MAGALLAN was discovered and explored by the celebrated MAGALHAENS, in the year 1520, and has since been passed through by many ships. Its eastern entrance is between Virgin's Cape and Cape Spiritu Santo, or Queen Catharine's Foreland, which are eight leagues distant from each other. The VIRGIN'S CAPE is a steep white cliff, resembling our South-Foreland. Though the strait possesses many harbours, affording wood, water, and fish, the heavy gales of wind that prevail in it, and the strength of the currents, have caused it to be entirely abandoned, as the route between the two oceans is far more safe and expeditious by way of Cape Horn. Westerly winds are said to be the most prevalent in the strait, while the current usually sets in from the east, and at the entrance on that side the tide rises 30 feet.

WESTERN PATAGONIA, CHILOE, &c.—The general nature of this broken and irregular coast can be best understood by reference to the Chart: for, passing the western entrance of the Strait of Magallan, we see it broken into a thousand shapes, and into innumerable islands, mostly rocky and inhospitable. The ARCHIPELAGO of CHILOE, and the large island of that name, appertain to the state of Chili, and here civilization again commences. The islands of Chiloe are upwards of a hundred in number, but the great isle alone is of any considerable size, and twenty only are inhabited. The whole appear to have been formed by convulsions of nature, which have broken the continent to pieces, being generally rugged masses of rock, separated by narrow and deep channels, the navigation of which is rendered dangerous by sunken rocks and violent currents. Most of the islands rise perpendicularly from the water, and are so rocky that the proportion of soil capable of cultivation is very small; and this little, owing to a wet and unfavourable climate, but still more to the idleness of the inhabitants, and their very imperfect agriculture, is not cultivated to the greatest advantage. Hence the quantities raised of wheat, oats, French beans, and potatoes, which constitute the permanent vegetable food, are scarcely adequate to the consumption of the inhabitants.

The cultivated fruits of the province of Chiloe are apples and strawberries. The most common trees, and with which the hills are in general covered, are the cedar, oak, walnut, plum, cypress, cinnamon, laurel, orange, &c. A kind of rattan grows spontaneously, of which the natives make cordage, and which is also employed in roofing their habitations. The Archipelago has neither beast of prey nor venomous reptiles.

The climate is humid and stormy, but not unhealthy. The winter is not sufficiently cold to permit the snow to lay long on the ground, but this season is extremely wet, with heavy gales from N.N.E. and N.N.W.; southerly winds, on the contrary, are accompanied with fair weather. The *traversia* is a transient storm from the east. The *Aurora Australis* is occasionally seen here. In midsummer the heat is great, but the sensation is moderated by a sea-breeze, which blows pretty regularly from ten till three o'clock. The population is composed of creole Spaniards and Indians. The women are employed in making mats, coarse linen, and woollen cloths. The principal exports are timber, particularly cedar, and cured hams, the Archipelago abounding in hogs.

The great ISLE OF CHILOE is forty leagues long, north and south, and from ten to thirteen leagues broad. Its western coast is nearly straight, having no indentation of any consequence, and only a few insignificant rivers. The eastern coast, which faces the continent, is more irregular; and, nearly in the middle, forms a deep bay. The island contains two towns and thirty-eight villages, principally on the northern and eastern sides, there being but one village on the western coast; and the interior is so mountainous and barren as to be entirely uninhabited.

The only port now visited by shipping is that of ST. CARLOS, at the N.W. end, the access to which is safe. The town of St. Carlos contains about two hundred wooden houses

houses of the Spaniards, and some Indian huts, scattered without regularity. Until 1768, the port of Chacao, on the N.E. side, was the chief place, but this is now reduced to a church, missionary-house, and a few Indian huts only. CASTRO, on the eastern side, has a good port, but, from the difficulty of the navigation, is never visited by ships.

The PORT of SAN CARLOS is formed by the bold peninsula of Lacuy. Without its entrance, on the north side, is an island, one mile and three quarters long, connected to the main by an isthmus of sand. A league and a half to the S.E. of this is *Point Lacuy*, the N.W. point of the entrance, and two miles from Point Lacuy to the S.E. is the fort and town of San Carlos, on the S.E. side. There are several little isles to the eastward.

Between Point Lacuy and the point of S. Carlos the depths are 8, 6, and 12, to 3½, 4, and 5, fathoms: and, within the harbour, to the westward, 10, 7, and 8, to 5 and 3, fathoms. The bottom chiefly of soft clay or oaze. In a cove within Point Lacuy the seine may be hauled with success.

In a manuscript survey of this harbour, with which we have been favoured by Captain Wm. H. Smyth, R. N., Fort S. Carlos is represented in 41° 52′ 20″ S. and 73° 52′ 55″ W. Variation, in 1807, 19° 20′ E. High water, on the full and change, at the entrance, at 12h. 50m. The Spanish Chart of the Harbour gives the high water in the port at 11½h. Tides regular, and vertical rise 16½ English feet.

CHILOE TO VALDIVIA.—Between the Island of Chiloe and Valdivia the coast is represented as generally rocky and dangerous. Of the harbour of Valdivia a particular plan is given on the Chart, which obviates the necessity of a particular description. Its town, founded in 1552, is said to have 40,000 inhabitants, and has been noted for gold-mines in its vicinity.

GENERAL REMARKS on the CLIMATE and PRODUCTIONS of CHILI.—The climate of the central parts of Chili has been described as one of the most delicious upon the face of the earth. The seasons are regular; spring begins on the 21st of September, summer in December, autumn in March, and winter in June. From the beginning of spring to the middle of autumn, between the parallels of 24 and 36 degrees south, the sky is always serene, and it is very rarely that a slight shower falls during that period. The rains begin in the middle of April, and continue till the end of August. In the northern provinces there is little rain, but in the middle, three or four days of rain alternating with fifteen or twenty dry days; and, in the southern, the rains sometimes continue, without interruption, for nine or ten days. Thunder is seldom known, except on the Andes, in which direction the lightning, by night, is frequently seen. Snow is unknown in the maritime provinces; but on the mountains, from April to November, there are constant falls; and on the summits it remains perpetual; yet, in Chili, in general, no river is frozen. The dews are copious in spring, summer, and autumn. North and north-west winds bring rain; south and south-west winds, clear weather.

The soil of the valleys and low lands is admirably fertile, and produces grain, in abundance, with many European herbs and fruits, in the greatest perfection. The northern provinces have the sugar-cane, sweet potatoe, and other tropical vegetables. Maize, or Indian corn, is common and abundant, with peas and potatoes. Strawberries, of uncommon size, and wild tobacco. The beautiful flowers and shrubs are infinite: among them are seven species of myrtle. The forests are diversified with trees of ninety-seven kinds; of these thirteen lose their leaves in winter. Vines flourish, even without culture, and many are found in the forests. Great quantities of rich wine, of a fine flavour, are exported.

Fish, shell-fish, and birds, in a wonderful variety, are innumerable. The firmament is sometimes darkened by the sea-fowl, in their prodigious flights. In spring, the land-birds retire to the forests, but revisit the plains on the return of winter. The American ostrich appears in great numbers in the Andine valleys. Eagles and vultures scream among the precipices and solitudes of the mountains; and here may be seen the *condor*, a gigantic species of vulture, the largest bird that flies. Of quadrupeds, the horses, cattle, and sheep, are of the finest quality.

Chili is celebrated as one of the richest metallic regions, in tin, iron, copper, silver, and gold. The last exists in considerable quantities, and is celebrated as the purest in the world.

Chili was first visited by Diego Almagro, the companion of Pizarro, after the conquest of Peru; and, in 1541, Baldivia, or Valdivia, its first city, was founded. The Spaniards, however,

however, have never been able to conquer the whole of this region, and the *Araucanes*, or *Araucans*, with other Indians, continue to possess all the tract southward from the River Biobio, with the exception of Valdivia.

The rivers and rivulets which descend from the Andes run through fine valleys, and abound in trout and eels. Fish is also abundant on the coast; the commonest kinds being congers, soles, cod, smaller but more delicious than that of Newfoundland. Tunny fish arrive periodically. Ambergris is frequently found on the shores. The wind is generally from the S.W. while the sun is in the southern tropic, and is cold and dry. The North and N.W. winds, which prevail in the opposite season, bring heat and rain.

The ISLE MOCHA, inhabited by Indians, lies halfway between Valdivia and Concepcion, and serves as a directing beacon to vessels on the coast. The Spanish officers place this isle, as shown in our Table, page 40, in 38° 20′ S. and 74° 5′ W. Captain Colnett has described it, as seen by him in passing. "It is of a height to be seen at the distance of fifteen or sixteen leagues, in clear weather, and, on approaching it, its summit appears rugged. It is about three or four leagues in length, lying in a north and south direction by the compass. The northern part of the island descends gradually into a low sandy point, or long tongue of land, on which is a rock or cross that has the semblance of a sail. The south point, at the distance we were, appeared to end in a more abrupt manner, and there extends from it, to a considerable distance, a range of small rugged rocks, some of them on a level with the water, while others rose boldly from it, so that it was a matter of some doubt with me, whether they composed an actual part of the island. Breakers also run off from it a great way to the westward, at least three leagues. There is a bare white spot on one part of the island, having the appearance, at an offing, of eight or nine miles, as if not belonging to it. From the great number of seals which I saw off this island, I should suppose that it must abound with them. The main land of Chili, within the isle, is of moderate height; and, as it appeared to me, about six or seven leagues distant."

CONCEPCION.—The harbour of Concepcion, situate as shown in the Table, page 40, and of which a plan is given on the Chart, has been described by M. la Pérouse, by whom it was visited in 1785, and who describes it as follows: "The Bay of Concepcion is one of the most commodious that can be found in any part of the world. For, though the tide rises six feet three inches, the water is smooth, and there is scarcely any current. It is high water here, at the full and change of the moon, at forty-five minutes past one. The bay is open only to the north winds, which never blow out in the winter; that is, from the end of May to October. In this season also the rains fall, and continue throughout the monsoon, for so we may denominate constant winds, which are succeeded by others from the south, that continue to blow for the rest of the year, and are accompanied with fine weather. The only anchorage sheltered from the N.E. winds, in the winter, is before the village of Talcahuano, on the S.W. side.

At present there is no other Spanish settlement in this bay, the antient town of Concepcion having been destroyed by an earthquake in 1751. It then stood at the mouth of the River St. Pedro, to the east of Talcahuano, and its ruins are still to be seen, though unlike the remains of antient magnificence in the other hemisphere. Their duration will be short, the buildings of this country being only of clay, or bricks baked in the sun, and the roofs covered with scallop tiles, as in the southernmost provinces of France.

After the destruction of this town, which, during the earthquake, was rather swallowed up by the sea than by the land, the inhabitants dispersed, and encamped in the environs. It was not till 1763 that they made choice of another spot, situated about a quarter of a league from the River Biobio, and three leagues from the antient town of Concepcion, and the village of Talcahuano. On this spot they built a new town, to which the bishopric, the cathedral, and the religious houses, were transferred. The houses consist of but one story, that they may be the better able to resist the shock of earthquakes, which occur in these parts almost every year: this town occupies a great extent of ground.

The number of inhabitants is about 10,000; and here is the residence of the bishop and the military governor. The bishopric is nominally bounded on the north by S. Iago, the capital of Chili, where the governor generally resides; and on the east by the Cordilleras, and extending on the south as far as the Straits of Magallan. But its true limit is the River Biobio, about a quarter of a league from the town. All the country to the

the south of that river, with the exception of the isle of Chiloe and a small circle round Valdivia, belongs to the Indians, who cannot be deemed subjects of the Spaniards, with whom they are continually at war, which renders the Spanish Governor's office at once difficult and important. To him is entrusted the command of the militia of the country, as well as the regular troops, from which he derives a great influence over the inhabitants, whose civil governor is the corregidor. The defence of the country also rests solely with him, so that, between war and negotiation, he finds incessant employ. A new administration is now forming, which perhaps will differ little from that of our colonies, and the authority will be divided between the governor and the intendant.

The whole world does not afford a more fertile spot than this part of Chili. Corn produces sixty fold, and the vine is equally abundant; the fields are covered with innumerable flocks, which, without requiring any care, multiply beyond all calculation. The only care necessary is to keep separate the different property of individuals; and oxen, horses, mules, and sheep, herd together in the same enclosures. A large ox is ordinarily worth eight dollars, a sheep three quarters of a dollar, but there are no purchasers, and the inhabitants kill every year a great quantity of cattle, the skins and tallow of which are sent to Lima. They also cure some provisions for the consumption of the small coasting vessels which navigate the South-Seas.

No disease seems peculiar to this country; but there is one very common that I shall not name. Those who are so fortunate as to escape this often live to a great age; for, at Concepcion, I met with several who had attained an hundred years.

Notwithstanding so many advantages, this colony is far from making the progress which might have been expected from a situation the most favourable to great population; but the influence of the government is in constant opposition to that of the climate. The system of prohibition exists at Chili in its fullest extent. This kingdom, of which the productions would, if increased to their maximum, supply all Europe; whose wool would be sufficient for the manufactures of France and England; and whose herds, converted into salt provision, would produce a vast revenue; this kingdom, alas, has no commerce! Four or five small vessels bring every year from Lima, tobacco, sugar, and some articles of European manufacture, which the miserable inhabitants can obtain only at second or third hand, after they have been charged with heavy customs at Cadiz, at Lima, and lately at their arrival at Chili: in exchange they give their tallow, hides, some deals, and their wheat, which, however, is at so low a price, that the cultivator has no inducement to extend his tillage. Thus the balance of trade is always against Chili, which, with all its gold* and articles of exchange, can scarcely purchase sugars, tobacco, stuffs, linens, cambrics, or even the hardwares necessary to the ordinary wants of life.

From this very concise description, it is evident that, if Spain does not change her system, if the freedom of commerce is not permitted, if the duties on foreign manufactures are not reduced; in short, if they lose sight of the political axiom, that a very small taxation, on an immense consumption, is far more productive to the treasury, than a duty so heavy as to annihilate the consumption itself, the kingdom of Chili will never attain that flourishing condition which its happy situation appears to promise. Unfortunately for this country, it produces a small quantity of gold, and the beds of almost all the rivers are enriched with that metal. The inhabitant may gain half a dollar a day merely by washing the soil; but, as provisions are extremely abundant, want does not excite him to labour. Deprived of all communication with foreigners, he is equally ignorant of our arts and luxury, and can feel no desires for them, sufficiently strong, to overcome his inactivity. The land, therefore, remains uncleared, and the most active are those who spend a few hours in washing the sand of the river; an occupation so easy, that it becomes unnecessary for them to learn any trade. Thus the houses of the most opulent are almost destitute of furniture, and the only workmen of La Concepcion are foreigners.

It is the idleness, rather than the credulity or superstition, of the inhabitants, which has filled this kingdom with convents, both for men and women. The former enjoy much more liberty than in any other country; and the misfortune of having nothing to do, of belonging to no family, and being condemned to celibacy, yet without separation from the world, or confinement to their cells, unavoidably renders them the worst members

* According to the accounts which have been transmitted to me, the gold which they procure annually in the archbishopric of Concepcion cannot be estimated at more than 200,000 piastres. A plantation at St. Domingo affords a revenue full as large.

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of society in America. Their effrontery cannot be expressed. I have seen them remain at a ball till midnight, separated, it is true, from the company, and placed among the servants. No one gave more exact information to our young people, concerning places which priests should know *only to interdict them*.

The inhabitants of La Concepcion are much addicted to theft, and the women are extremely complaisant. They are, however, but a degenerate race, mixed with Indians; yet the inhabitants of the first rank, the true Spaniards, are extremely polite and obliging. I should be guilty of gross ingratitude, if I did not paint them in their true colours. I shall endeavour to do it, by relating the history of our visit.

I had scarce anchored before the village of Talcahuano, when a dragoon brought me a letter from M. Quexadá, who was governor, *pro tempore*, and assured me we should be received as fellow-countrymen; adding, with the most perfect politeness, that the orders he had received on this occasion were exactly in unison with the sentiments of his heart, and of all the inhabitants of La Concepcion. This letter was accompanied with all kinds of refreshments, which every one was anxious to present us; but we could not consume so many objects, and we scarcely even knew where to place them.

Being obliged to devote my first attention to the re-fitting of my ship, and getting up our astronomical clocks and quadrants on shore, I could not immediately make my acknowledgements to the governor, though I waited with impatience the moment when I might discharge that duty. He, however, prevented me by coming on board, attended by the principal officers of the colony. I returned the visit the next day, accompanied by M. de Langle, and several officers and passengers. We were preceded by a detachment of dragoons, the governor having quartered half a company at Talcahuano, which, as well as their horses, were at our orders ever since our arrival. M. Quexada, M. Sabatero, commandant of artillery, and the town-major, meeting us a league from La Concepcion, we all went down to M. Sabatero's, where we had an excellent dinner, and at night there was a ball, to which the principal ladies of the place were invited."

Concepcion was visited by Captain Kotzebue, in 1816; and this gentleman says, "I give no description of the appearance of the coast, nor of the entrance to the bay; La Perouse has said sufficient on the subject in his voyage. The navigator may be confident of always finding, at this season of the year, (11th February,) at a distance of two degrees from the coast, as well in this latitude as in one degree more to the south, beautiful and serene weather and south wind; but, on the contrary, if he go more to the west, he may expect to find gloomy weather and a north wind. It would, therefore, be adviseable for ships, that intend sailing up the coast, to approach it at once at 42°, as they will certainly accelerate their passage. But this applies only to the summer; because, in winter, gloomy weather and north winds prevail."

The russian officers were kindly received and hospitably entertained by the commandant and governor. In the evening they joined a very numerous and elegant company of ladies and gentlemen at Talcahuano, where they had music and dancing.

"On the 25th," says Captain Kotzebue, "we were invited to a fête at the governor's, (in the city,) which he had prepared to our honour. To avoid the heat, we rode from Talcahuano early in the morning, in company with the commandant and several officers. We had an opportunity, in this short tour, of admiring the rich and luxuriant nature of this country; the inhabitants, notwithstanding the negligent manner in which they cultivate it, reap an hundred fold. We often rode through the most beautiful orchards, which, without the assistance of culture, produced the finest tropical fruits. When we appeared on the parade, eight cannon were fired, the military drawn up in parade, &c. In the evening there was a ball, which was crowded with elegantly dressed ladies, of whom there is generally a greater number than of gentlemen. The Chilians receive their fashions from Paris. The tone of society is becoming and unrestrained. Of the town we have nothing remarkable to say; it is built on a regular plan, yet very deficient in handsome houses, but the number of churches and convents is very great. The size of the town may pretty well be calculated, according to the number of its inhabitants, which is said to be ten thousand; the broad river Biobio, on which it is situated, adds much to its beauty. There are now no more Spanish settlements on the other side of the river; the land being inhabited by Araucanas.

"I think it not superfluous to advise every navigator, who visits this place, to caution his people in the use of wine. In some of the numerous public-houses at Talcahuano, they mix with the wine the juice of a herb unknown to us, which produces the most horrid effect; for it throws people into a state bordering on frenzy, which is followed

lowed by a general relaxation of the nerves. Several sailors of the Rurick experienced this. The potion is probably calculated for the plunder of foreigners, as this generally follows the drinking of it. Talcahuano is, for the most part, inhabited by a mixed race of Spaniards and Araucans, who have no mind for work, and who therefore try to gain subsistence by dishonourable means.

"La Pérouse, in his voyage, has said so much about Concepcion Bay, that I could only make repetitions: the bay, however, as a place of refreshment, is to be recommended to navigators, as provisions and fruits of all sorts are in abundance. Chili is an extremely pleasant country, and enjoys an almost uninterrupted spring: during our whole stay we had the most beautiful weather: what surprised me much was a bright lightning, which I observed every evening after sun-set in the N.E., over the lofty mountains. Chili produces a pleasant wine; and it is only to be regretted that the Spaniards do not apply more to the cultivation of the country."

CONCEPCION TO VALPARAISO.—From the PORT OF CONCEPCION to that of Valparaiso, which is the sea-port of ST. IAGO, the capital of Chili, the *true* bearing and distance are *N.* by *E.* ½ *E.* seventy-seven leagues. The coast through the whole distance is steep-to. In 33° 56′ is the shoal of *Topocalma*, a reef about four miles long, and at about the same distance from the shore; with this exception, the coast is represented as generally clear, but it does not seem to have been minutely surveyed, and should, therefore, be approached with caution.*

Valparaiso (the *Valley of Paradise*) is situate as shown on the Table, page 40.

It has already been mentioned, in Note 4, page 44, that Captain Vancouver passed Juan Fernandez, on the south, in 1795. He thence proceeded easterly for Valparaiso, and describes his course as follows:

23d March. The wind seeming now to be fixed in the northern quarter, and being to the southward of our port, our course was directed to regain the parallel of its latitude; this was accomplished by Monday noon, being then, by observation, in latitude 32° 55′ S., true longitude 74° 30′; the wind was still at N.N.W., with fair and pleasant weather; the thermometer from 66° to 68°, and the variation of the compass 13° 42′ East. Having now got to the northward of Valparaiso, our course was so ordered as to preserve that situation. This, however, proved to be a very unnecessary precaution, as towards midnight, in latitude 32° 51′, the wind, after becoming light and variable, was succeeded by a fresh breeze at South, that seemed to be equally steady and fixed in its direction as the northerly wind had been before, so that we had now again to haul to the southward, in order that we might keep to windward of our port.

On Tuesday forenoon, we gained a distant view of the lofty coast of Chili to the eastward. The observed latitude at noon was 32° 53′ S. The land at this time was too far off to distinguish any of its particular parts. The wind blew fresh from the south, with which we made great progress towards the land, and by sun-set the shores were distinctly seen to extend by compass from N. 50° E. to S. 68° E., about ten leagues distant. In this point of view, the sea-coast appeared to be composed of hills of various shapes and sizes, considerably elevated; behind these the interior country rose to a very lofty range of stupendous mountains, wrapped in perpetual snow. These were the *Andes*, and, when first seen, which was shortly after noon, were at the distance, I should imagine, of nearly forty leagues; but we had not an opportunity of making the necessary observations for ascertaining that fact. We continued to stand in shore until ten at night, when, concluding we were within three or four leagues of the land, we

* In about 34° 51′ S. and at four hundred paces from the mouth of the River Maulé, there is, on the shore, a mass of whitish marble, about seventy-five feet high, quite detached. Its length from E. to W. is two hundred and twenty-four feet, and breadth fifty-four. It is commonly called the *Church*, having all the appearance of one, and being excavated within into a vault more than one third of its exterior height. It has three entrances, of a proportional height and breadth; one at the western end, where the sea, the great architect of this singular edifice, enters, and two lateral doors exactly opposite, through which the sea retires during the reflux. This natural edifice, of which half is still bathed by the waves, serves as a residence for a great number of seals, whose cries resound through the vast concavity; while the top is covered with white sea-fowl, called *lili*, in size and figure resembling doves. At the indefinite distance of about a degree to the northward, is a similar object on shore, called, by the people of the neighbourhood, the *Church of the Rosary*.

The highest mountains of the Chilian Andes, which generally rise at about forty leagues, more or less, from the sea-coast, are *Manfia*, in 28° 45′ S.; *Tupungato*, in 33° 24′; Descabesado, in 35°; Blanquillo, in 35° 4′; Longavi, in 35° 30′; Chillan, in 36°; Corcobado, in 43°. The summits are supposed to be nearly twenty thousand feet above the sea; and, of course, are covered with perpetual snow.

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tacked and stood to the W. S.W. under as much sail as we could venture to carry, for the purpose of fetching, if possible, to windward of Valparaiso.

At two o'clock, on Wednesday morning, we again stood in for the land, which was very indistinctly seen, owing to a dense haze in which it was enveloped. The wind at S.S.E. was light, and it was not until about ten in the forenoon that we were in with the shores; on which there was no one circumstance that could indicate our being in the neighbourhood of Valparaiso, nor point out whether we were to the north or south of that port, excepting our own reckoning, which showed it to be in the former direction.

I did not think it prudent, in our crippled situation, to risk a disappointment, and for that reason we stood off shore until an observation for the latitude could be procured, which, by the help of a double altitude, was accomplished about eleven o'clock, when we bore away, in latitude 33° 10′ S, for a point not far distant from the place where we expected to find the Bay of Valparaiso. At noon the above point, which was the most northern part of the coast in sight, and appearing like a small rocky island, lying close to a low or moderately elevated projecting point of land, and terminating at the sea-side in a round hummock, like a bell, bore by compass N. 43° E.; a rugged rocky islet lying close to the main land, near the south point of a small sandy bay, being the nearest shore, N. 64° E. two or three miles distant; and the southernmost part of the coast in sight S.E. by S.

The view we had thus gained of the coasts of the kingdom of Chili, presented but little to attract the attention, or excite the curiosity of, strangers. Those parts immediately on the sea-shore were composed of rude cliffs and rocky precipices, against which the western swell broke with unremitting violence. Above these cliffs the country was variously broken by irregular eminences, some formed of naked barren rocks, and others consisting of a reddish substance almost equally unproductive, on which some verdure appeared here and there, with a few stunted shrubs and bushes, some of which were at great distances from each other; but nothing like a tree was to be seen, and the landscape, bounded by the frozen summits of the lofty Andes, towering above the lower barren mountains, that descend from them towards the sea-coast, exhibited an extremely dreary, desolate, and inhospitable, picture.

As we proceeded, a low steep bluff point of land, beyond that which terminated our northern view of the sea-coast at noon, was now seen lying in a direction from it N. 51° E, about three leagues distant, and which proved to be the western point of the entrance into Valparaiso Bay.

Our attention was now directed in quest of the Great Rock, or Small Island, described by Sir Richard Hawkins, in 1593, as lying a league or better to the south of, and a good mark and sure sign of, the port. At first I was at a loss to discover which of the two noticed at noon was Sir Richard's rock, as both are much farther from the Bay of Valparaiso than he describes them to be; but, as we advanced, I had no doubt of the most northern being the "Great Rock or Small Island." This lies upwards of three leagues, in a direction S. 51° W. from the Point of Angels, which is the west point of Valparaiso Bay, and is rendered still more conspicuous for pointing out the port by being situated close to a very projecting point, called by the Spaniards Point Quraumilla, from whence the shores of the main land to the southward take a direction some degrees to the eastward of south, and those to the northward, as before stated, towards Valparaiso. It is also the south-western point of a spacious open bay, bounded by a sandy beach, where anchorage might probably be found, but which must be much exposed; and as several rocks were observed lying at a very little distance from the shore, the chance is that the bottom may be composed of the same materials. On the N.E. side of this bay, a house and some smaller habitations were seen near it, and the country in its neighbourhood appeared to be less sterile and forbidding than those parts to which we were opposite in the morning. Its surface, though unequal, was less broken; and although it could not boast of a luxuriant vegetation, yet the naked rugged precipices, that formed a barrier against the ocean, on each side of the bay, were no longer the general characteristic of the interior country, which presented a surface of some soil, on whose withered herbage both flocks of sheep and herds of cattle were seen grazing, on the sides of the hills.

Along these shores, which seemed to be bold, we passed at the distance of from half a mile to half a league, without discovering any danger which is not sufficiently conspicuous to be avoided; and, with the assistance of a fine southerly breeze, by two in the afternoon we were abreast of the point of Angels, off which some rocks extend to

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the distance of about half a cable's length. These we passed at about twice that distance, without gaining soundings. In sailing round this point, the country suddenly opened upon us, and presented a scene to which we had long been entire strangers; the whole of the bay was now exhibited to our view, terminated by a sandy beach; near the upper margin of which, and on the sides of the adjacent hills, was seen the town of Valparaiso; and, although from its situation it could not boast of much pleasantness, yet in this point of view it appeared to be neat, of considerable extent, and built with regularity; the churches rose above the other buildings, and the whole being defended by several forts, all conspired at once to announce that we were again approaching towards the civilized world.

In the bay and near to the shore rode several sail of merchant-ships, engaged in their respective occupations; to and from which boats were passing and re-passing to the shore, where a very lively scene was exhibited of men and cattle; the whole exhibiting that sort of commercial intercourse between distant countries that the arts and civilization can alone carry into effect.

The wind from the southward blowing directly out of the bay, obliged us to make some trips for the purpose of reaching a proper situation for anchoring, which was accomplished about three o'clock, in 10 fathoms, muddy bottom.

Ships destined to the Port of Valparaiso should endeavour, during the summer months, to make the coast well to the southward of the bay, in order that a fair wind may be ensured for entering the bay. The southerly winds, which, in general, extend from sixty to seventy leagues from the coast, mostly prevail until the month of May; and from the middle of that month, during all the months of June, July, August, and September, I was given to understand the prevailing winds were from the north. These winds are commonly attended with great quantities of rain and very foggy weather, but they do not often blow with much violence. So soon as the wind returns to the southward, the dry season commences, and so it continues, with little variation, during the remainder of the year. These winds, however, frequently blow very strong, so as to break vessels adrift, though well secured by anchors on the shore, near to the town of Valparaiso. Within four or five leagues of the Point of Angels, which is the western point of the bay, is a low rocky point, near to which is a detached high barren rock: these points lie from each other S. 51° W. and N. 51° E. To the northward of the above low rocky point, are some scattered rocks, that lie about two miles from the point, and about a fourth of that distance from the shore; and to the northward of these rocks is a sandy bay, on the N.E. side of which is a house. In this bay I was led to believe that anchorage might be had, though the situation is certainly much exposed. The Point of Angels (off which are also some rocks lying very near to it) may be approached by sailing at the distance of half a league from the shore, and, so soon as the point is passed, the town of Valparaiso is instantly discovered. About seven miles to the N.E. of this point is the cluster of rocks lying at some distance from the shore, on which the sea breaks violently; but we had no opportunity of ascertaining their situation with any degree of precision. The bay is about four miles wide, and about a mile deep, apparently free from any sort of danger; but, as it is greatly exposed to the northerly winds, the trading vessels constantly moor with two good anchors and cables in that direction, and with other cables fast to anchors on shore, in 5 or 6 fathoms of water, soft sandy bottom, near to the custom-house; by which means it is expected that the officers of the revenue may be enabled to prevent any contraband trade, by vigilantly attending to their duty in the day-time, and by a rowing guard during the night. The depth of the water gradually increases with the distance from the shore to 35 fathoms, and the bottom becomes more tenacious. In the depth of 16 fathoms, in which we took our station, it was a very stiff clay. Here we moored a cable each way, to the northward and to the southward, the Point of Angels bearing by compass N. 35° W., the fort in the town N. 86° W., the redoubt on the hill S. 5° E., the church at Almendral S. 65° E., the east fort N. 83° E., the east point of the bay N. 57° E., and the nearest shore S. 7° W., a cable's length distant.

On the top of a hill on the east side of the bay, is an open or barbet battery, of stone and brick, and capable of mounting ten guns; this battery commands all that side of the bay, the beach, and the village of Almendral. On the summit of another hill is a stone redoubt, of a circular form, with eleven embrasures; these command the beach and village of Almendral to the eastward, the bay to the northward, and the town and harbour of Valparaiso to the north-westward. Although this fortification was in a most neglected and ruinous condition, we were given to understand, that the principal maga-

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sine was inclosed within its ruins. The largest and most considerable fortification, is in the middle of the town, within which is the residence of the governor. It is situated on a small eminence, one side of which is open to the sea, and is separated from it only by a very narrow pass. The height of the lower wall, which is strong, and well built with masonry, is about fifteen feet to the embrasures; of which, there are six that front the sea, two face the street to the eastward, and two look into the market-place to the westward. The upper part of the hill is surrounded by another strong stone wall, about ten feet in height, and half way up the hill; a third wall crosses it, which shews three embrasures to the sea, immediately over the fort and the governor's house below. At the place where this wall terminates, which is near the summit of the eminence, the side of the hill falls perpendicularly down into a deep gulley, by which the fort is encompassed, and which might be the means of rendering this fortification unassailable, and a place that might long be maintained, were it not for other hills within musket-shot, which command every part of it. The space inclosed by the lower wall is about 400 yards in length, and in some places about 100 in breadth: here are the barracks for the troops, and at the upper end is a building, in which a court is held, for the regulation of the police of the town. A door, in that side of the wall which faces the market-place, is the only entrance, and leads, by a winding stair-case, to different parts of the fortification. There is one other fortification, about half a mile from the fort, situated on the west side of the bay, at the foot of a high hill, and but little elevated above the level of the sea. This shews a face of five embrasures to the east, and, in that direction, commands the west side of the bay; three embrasures to the northward are so disposed, as to be able to open upon any vessel the instant she passes round the Point of Angels; whilst two others to the southward command the ships lying in the harbour or the bay. We computed that these several places contained about seventy pieces of cannon, many of which were without proper carriages, and some were lying dismounted under the walls of the lower battery in the town.

From the western fort, some rocks extend into the bay, and the bottom is too foul for vessels of any force to anchor nearer to this fortification than about 400 yards; but they may approach and anchor in a very eligible situation, within about 250 yards of the garrison or principal fortress; and neither of these places, in their present situation, would be able to resist a well-directed fire, even from two or three frigates. (*April*, 1795.)

It is from this port that the kingdom of Peru principally depends for its supply of grain; in return for which, sugar, tobacco, indigo, and spirits, are imported into Valparaiso. Tar we found not only to be a scarce, but dear article, as the expense of the quantity which was necessary for our new cables was nearly equal to that of the workmanship and raw material of which they were composed.

The houses in Valparaiso, on account of the earthquakes which frequently happen in South-America, consist of the ground-floor only; the walls are built with mud, and plastered over with a preparation of lime; they are convenient, well adapted to the climate, and are, in general, handsomely furnished. In the town and in the village of Almendral there are six churches, within the diocese of the archbishop of St. Iago, but under the direction of a vicar, who resides at Valparaiso, and is amenable for his conduct to the archbishop.

The trade of this port is carried on in ships from 250 tons to 700 tons burthen; in which is annually exported to Lima about 15,000 tons of wheat and wheat-flour, large quantities of small cordage, dried salt-fish, and apples, pears, and peaches, in great abundance. All goods imported are landed on a soft sandy bank lying before the custom-house, and thence carried into the warehouses, or removed to distant parts of the country on the backs of mules; by which conveyance the articles for exportation are, in like manner, brought down to the shore. Most kinds of vegetables, and a great variety of fruits, as well those of the northern parts of Europe, as those common in the tropical countries, were here produced in great plenty, were all excellent of their kinds, and were very cheap: the water was extremely good, though the mode of obtaining it was somewhat tedious, as we were obliged to fill our casks from pipes of a small bore, through which it was conducted from the reservoir in the market-place down to the water's side. Although there was no perceptible current in the bay, the rise and fall of the tide was evidently about three feet.

Captain Vancouver, from twelve meridian altitudes, gives the latitude of his observatory at Valparaiso as 33° 1′ 30″ S., and the longitude, from thirty-nine sets of lunar distances, as 71° 31′ 8″, which is nine minutes less than the position given by the Spanish surveyors,

surveyors, as shown in the Table, page 40. The mean may be considered as 71° 36′ W. But, probably, the result of the Spanish officers is to be preferred.

The variation, from six sets of observations, by each of two compasses, was 14° 49′ E. The mean inclination of the marine dipping-needle, 44° 15′.

Valparaiso has also been visited by Lieutenant Shillibeer. This gentleman describes the town as divided into its two parts, and known by the names of *Port Valparaiso*, and *The Almendral*. "The Port," he says, "is, doubtless, the most antient; and, from its being the immediate mart for every kind of merchandise in the country, it is of the greatest consideration. The town is built as regular as the ground on which it stands will allow, and possesses two or three tolerable streets; the rest, which is by far the greatest part, occupies the sides and summits of those heights, which run with great abruptness even to the beach. Through each of those streets cross several zig-zag roads, and smaller paths leading from them to the different dwellings. The houses, with a few exceptions, (as throughout the country,) are of but one story, and built of large unburnt bricks, have rather a mean appearance; and those situated on the beach are occupied by merchants, either as magazines for corn, or shops; and where the principal part of their commercial affairs is transacted. The chief article in commerce consists in corn, cordage, and copper; the two first being brought from the neighbouring fertile valley of Quillota, the latter from beyond St. Iago.

"The custom-house, with all its establishment, is on the beach; and all boats, his British Majesty's excepted, are obliged to land there. Both officers and men belonging to this department appear to be vigilant in their stations, and steady in the performance of their duty; but, I believe, from the governor to the lowest individual in the establishment, there are few who can withstand the temptation of a 'cohecho de oro,' or a bribe of gold.

"There are two churches, but neither worthy of notice, and of monasteries or convents there are none.

"In the centre of the town, and commanding it in either direction, is situated the citadel, consisting of a small battery of twelve guns towards the sea, and a wall surrounding an inconsiderable piece of ground, in which is the governor's residence and a prison. This place bears not the least resemblance to a regular fortification; and the rivers described by Frezier to run on either side, must have been from fancy alone. I sought for them, but in vain; however, there are certainly channels; and, in the rainy season, they may contain a considerable quantity of water; at any other period certainly not. There is a deep well in the garrison, and another greatly within the range of its cannon. The whole is in the greatest possible state of disorganization; but let it be ever in so fine a state, it is not tenable against any force which may be in possession of the heights above, for the mountains being steep, the citadel becomes soon exposed; insomuch that, at the distance of half a gun-shot, it is quite open and unprotected.

"Castello Blanco, or the White Castle, stands on the beach immediately under a high cliff, at the west point of the bay, flanking the harbour to the eastward. It mounts but eight cannons, is wholly unprotected from the land, and capable of so little resistance from the sea, that a ship of any force going against it, the garrison would not long be able to stand at their guns. The anchorage here is very good, but the most secure and protected is towards the White Castle, the opposite side being a shoal, as well as having some dangerous rocks, which are at no period visible above the surface of the water. The shore from the citadel to below the custom-house is very bold, and ships of considerable burthen can anchor within a few yards of the beach, so that they can conveniently take in or discharge the cargoes.

"It is impossible for ships of force to be supplied, at any time, with water from the port, without incalculable trouble, for it is in the rainy season alone that there is any, but what is contained in the wells; however, at the Almendral, it may be procured at all seasons, when the surf will permit the boats to land, as I shall hereafter mention.

"All kinds of trading with this country being prohibited by the Spanish government, the quantity of European goods imported here is but trifling, and of a most enhanced price; but great smuggling is now carried on across the Cordilleras, and all sorts of contraband goods are introduced by the British residents at Buenos Ayres, and their agents. The immediate produce of the country is confined to corn, hemp, and cordage, which are brought here in great quantities, and shipped for Lima, and the different ports of Peru; and, as that country is nearly as destitute of these articles as Chili is of sugar, coffee, &c. &c., these are their principal goods brought back in exchange. In fact, these

two countries appear dependent on each other; and, without a friendly understanding, (which is so much to the interest of both to have,) they must be equally distressed. During the *patre*, or insurrection in Chili, corn at Peru was at twelve and fourteen dollars the English single bushel; while sugar and coffee, in Chili, was at 6*s.* 6*d.*, or 7*s.*, the pound.

"I must not omit to mention the market, which, with the governor's house, forms a square, and is abundantly supplied with every article of subsistence, particularly poultry, vegetables, and fruit, whose prices are very moderate. Notwithstanding the apple is at all times so plentiful, and so superior in quality, they have not as yet began to make cyder. The grapes, also, are of unequalled quality, but the wine is seldom drinkable. The peach, apricot, and nectarine, are in their seasons extremely large, and of a most delicious flavour. The frutillia, or strawberry, although in size equal to three or four of ours, is by no means so agreeable to the taste.

"This country is abundantly supplied with every species of cattle, and an ox, weighing about 400 pounds, (which is the common size,) may be procured for ten or twelve dollars. The horses are not large, but finely formed, fleet, and spirited; and, when trained, are so tender in the mouth, that the most trivial touch of the rein is sufficient, when going full speed, to stop them in an instant; a sharp check, on the spot, and if the rider be not on his guard, it is no more than probable, that he will be precipitated over his head, which was a frequent occurrence with the sailors, when on their equestrian excursions.

"The population of the port, joined to that of the Almendral, is computed by the Spaniards to be nearly 20,000, but I have no conception it can be so many by nearly a third.

"A mountain, whose abrupt termination leaves only sufficient room for a narrow road between it and the beach, separates the port of Valparaiso and the *Almendral*, or Almond Grove, at the distance of 300 yards; but, even in this space, there are a few hovels formed in the rock; so, it may be said, there is a direct line of communication from the one to the other.

"This place, *the Almendral*, is built on a plain of more than a mile in length, and half as much in width, and consists of one long street, running directly through it, with smaller ones leading to the right and left. It is said to contain upwards of 5000 people, has several small churches, and one small monastery. It is so great a mart for fruit, that, at almost every door, there are various sorts exhibited for sale. Several gardens, of great extent, are occupied by almond-trees, from which the place derives its name. There are also large vineyards, in one of which, situated about the centre of the town, is the well from which the shipping are supplied with water; it is drawn in buckets by means of a wheel, and is sufficient to keep in continual supply three or four large hoses or pipes. The greatest inconvenience is the distance (400 or 500 yards) to roll the casks: they must also be rafted off, as there is, at all times, too great a surf to get them easily into boats." (1814.)

During the months of June, July, August, and September, the rain is continual here. In the other months there is seldom a cloud; and, except a fog in the morning, it is always serene. The country, for several miles round, is nothing but sterile mountains, scorched by the sun in the summer, or deluged by the rain in the winter; yet the valleys in the interior are very beautiful; and, among them, Quillota, to the N.E., may be considered not only the most extensive, but most fertile.

COQUIMBO OR LA SERENA.—At sixty-five leagues to the northward of Valparaiso is the Port of COQUIMBO LA SERENA. The coast between is generally high, bold, precipitous, and destitute of harbours. Coquimbo has been noted for mines of gold, silver, and copper, in its vicinity, particularly the latter. It is situated in a beautiful and fertile valley, near a fine sandy bay, which is bounded by mountains on the north and south. Through this valley the River of Coquimbo runs, and falls into the sea. The town is situated on the south side of the river, at about a quarter of a league from the sea. The streets are built in a line from north to south, and east to west; well watered and shaded with fig-trees, palms, oranges, olives, &c. always green. It has from 400 to 500 houses, and exports corn, wine, &c. to Lima. Excellent oysters are found here, and the sea-shells on the coast are beautiful and frequently valuable.

The anchorage, in the southern part of the Bay of Coquimbo, is sheltered by the *Pajaros* or *Bird Islands*, three or four islets, between which and the point of the main is a channel for ships. Another group, at the distance of eight leagues to the N.W. of Coquimbo,

Coquimbo, bear the same name: to the northward of the latter is the Isla de Choros, as represented on the Chart.

The Great Desert and Province of ATACAMA forms the boundaries of Chili and Peru. There is no other establishment here than some villages of Indian fishermen, who take the species of cod called *tolla*, and salt it for the markets of the interior. The chief of these fishing stations is *Cobija*, containing about fifty families.

The River Loa, a small stream, is the largest river of this coast, and the southern boundary of the province of Arica, which is here divided from Atacama.

COASTS OF PERU.—The first port of the State of Peru, which can be considered as of any consequence, is ARICA, formerly noted as the loading port of the silver from the mines of Potosi. It is noticed in the history of Sir Francis Drake, and of the bucaniers, and was, in those days, several times pillaged. The produce of the mines having latterly been sent overland, to Buenos-Ayres, Arica has fallen into insignificance, and its commerce seems limited solely to a little coasting trade with Lima, &c.

It is almost superfluous to inform the mariner that the vast mountains, called the ANDES, with their CORDILLERAS, or branches, extend through the western part of Peru, from north to south, and some of their highest summits are within this region, more especially in the north. These summits are lost in the clouds, and capped with snows, which may be of equal duration with the earth. The maritime plains, on the west of the mountains, have immense forests, with many trees peculiar to the country, including cedars, cotton-trees, many sorts of ebony, and other valuable woods.

The climate of Peru is truly singular, and it varies according to the height and local circumstances of different parts of the country. Along the coast, from the Bay of Guayaquil, in the north, to the desert of Atacama, in the south, the sun is seldom seen to shine more than in six months of the year; and, in this long plain, rain is almost unknown; but, towards the mountainous parts, rains are frequent. The chain of the Andés, rising to 14,000 feet above the sea, arrests the clouds, (except during January, February, and March,) which dissolve on the mountains in rain and vapours, accompanied with lightning and tremendous thunder. In the provinces unvisited by rain, the wind blows almost constantly from the southward, along the course of the Andés. Vegetation is supported by liberal dews throughout this region. The uplands seem to enjoy a perpetual spring united with a perpetual autumn. "The fields are always verdant; and grain, of all species, waves in golden harvests, while the fruits of Europe blush amidst those of the torrid zone. A regular warmth diffuses heat and vegetation; there is a regular equinox; and the temperature is, at all times, nearly the same, the seasons being distinguished only by the rains which fall from November to May, as in the eastern forests that skirt the Andés. The height of the mountains invests them with perpetual winter, and an intense cold is felt on the *Paramos*, or highest deserts."*

The whole coast of Peru is destitute of harbours. Not having a single one which can properly be so called: the anchorage in all the bays or roads being more or less open, and therefore insecure. The first place of any consequence to the northward of Arica is PISCO, which is sheltered, in some measure, by several islets, but its town is small and half a mile from the beach.

CALLAO AND LIMA.—The capital of Peru is the city of LIMA, of which the seaport is CALLAO. The particular plan of the road and country given on the Chart obviates the necessity of much geographic description. That of Lieutenant Shillibeer was written in 1814, and is as follows:

CALLAO, the port of Lima, stands on a low narrow neck of land, near the ruins of the old town, and almost level with the sea. This isthmus, for it can be termed nothing else, with the island of San Lorenzo, forms the anchorage, which is one of the most spacious and beautiful in the world; and, as the wind is never tempestuous or strong, excepting when indicative of an earthquake, ships may anchor, or moor, in the greatest safety, with a rope or hawser of a comparatively small size. The jetty, or landing place, is formed by a ship which was run on shore for that purpose, so that the surf being completely broken, boats are at all times enabled to land, and lie there with as much security as if in a still pond. To this place there are several streams of water brought for the conveniency of ships, which can always be supplied with the greatest expedition.

* Pinkerton. Modern Geog.

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The present town of Callao does not contain more than three hundred houses, which are built of bamboo and mud: they are mean in their appearance, and, from the number of sailors which are constantly here, the greater part of them are occupied for public houses, or shops retailing *aqua-dent* or spirit of the country.

The custom-house is situated at a little distance from the jetty; it is an extensive establishment, and here, as at Valparaiso, all departments are ready to sacrifice the public good, or rather the good of the state, to gratify their own insatiable thirst for riches. It has a governor and a numerous train of satellites. The trade carried on here is considerable from the different countries of Mexico, Quito, and Chili; from whence they are supplied with pitch, tar, and sulphur; with wines, spirits, wood, coco, and Guayaquil hats. Corn, hemp, cordage, hides, &c. &c., are generally imported from Chili; and from the island of Chiloe the woollen manufactures of the natives, such as the *poncho*, and rugs; some of the latter are curious from the strange figures represented, and are generally used as carpets for the ladies to rest their feet on. Sugar, coffee, chocolate, and Peruvian bark, are the principal articles exported. For the protection of the roadstead, there are three batteries, one of which is of great extent and strong. In the centre is a chapel, the residence of the governor, and soldiers' barracks: and under the bastions, which are bomb-proof, is sufficient room to contain the principal part of the Spaniards, or people to the number of six or seven thousand. The smaller ones are at a small distance to the north and south, each forming a crescent projecting to the sea, and mounting, in *barbet*, six long pieces of ordnance.*

The importance of these batteries, as a defence or guard for Lima, is but little, for shipping may anchor, and troops land, much out of the range of shot from their longest pieces; and as the wells of the garrison contain nothing but water, too brackish for long or constant use, their present supply, which is brought in a canal from the River Lima, can be instantly stopped, which must inevitably reduce it in a very short period. I understood that they had tried every method, but in vain, to prevent sea-water from penetrating, and are about to make fresh attempts; but, in my opinion, if I may judge from the local situation of the place, it will be as fruitless as the former ones, for the isthmus is narrow, and the ground where it stands is the ruins of antient Callao, which was, about the year 1740 [1746], swallowed by one of those terrible convulsions of nature so common in that country.† The old ruins, to a great extent, are quite visible, insomuch that several of the arches of different churches are now above the surface. They appear to have gone down bodily, and but little out of perpendicular; the one under which I went stood perfectly erect.

In digging the trenches of the batteries, many thousand skulls have been taken up, which are, with other bones, continually carried under the roofs of these once-splendid sanctuaries, and there deposited. The country near Callao is very level, and the earth contains such an abundance of nitre, that, at many places, the ground is covered with great quantities naturally crystallized; there is a great deal made in the neighbourhood, but particularly at Lima. The village of *Bella Vista* stands in a pretty situation, and is an agreeable walk in the cool of the evening from the port. The road leading to Lima is very commodious and straight, has a wall of mud on each side, and the city, which is seven miles from the port, being only three hundred feet above the sea, the ascent is hardly perceptible; on the contrary, there is so great a deception, that either going to, or coming from, it has the appearance of a descent.

At about four miles on the road, trees have been planted on each side, which, with the gardens being constantly in bloom for some fruit or other, makes the entrance into Lima peculiarly delightful.

For the space of two miles from the gates there are also walks with seats on either side, at convenient distances, for the accommodation of the public, and during the evening they are generally frequented by the fashionable part of the inhabitants, either in their calashes or coaches, or on foot.

By this road, then, and under a large, but not very magnificent, archway, you enter the city of Lima, celebrated for its great riches, and having had one of its streets paved with ingots of silver, as well as having for its founder Francisco Pizarro, who, it seems, caused it to be begun, either in the year of our Lord 1534 or 1535. It is, like

* The garrison of Callao mounts about two hundred pieces of ordnance, of different classes and calibre.

† It is said that, of a population of three thousand, one man only was left alive. Three-fourths of Lima were at the same time destroyed.—Ed.

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most of the other towns, founded by the Spaniards, laid out in squares of one hundred and fifty yards each way, with streets of a proportional width, crossing each other at right angles. Those running from east to west have a constant stream of water; and, as the descent is sufficient, all the dirt, which would otherwise be offensive, is carried off. Those going from north to south do not possess this advantage."

The RIMAC, or River of Lima, is very inconsiderable, except in the season when the greatest proportion of snow melts. At all other periods it is fordable, and at all places.

CHANÇAY.—The town of Chançay, in a fine valley, in latitude 11° 31′, is said to have three hundred houses of brick and reeds, and to export corn and cattle. HUAURA, ten leagues more to the N.W., upon a small river of the same name, has more than two hundred houses. Off the latter are numerous islets, the resort of innumerable sea-birds, whose dung is collected for manure. The coast hereabout has many natural salt-pits, which give name to *Salinas Road*, a spot partially sheltered, but affording neither wood nor water.

TRUXILLO.—The most important city of the coast, next to Lima, is TRUXILLO, distant eighty-seven leagues to the *N.N.W. (true)*, and containing a population of about twelve thousand. The chief products and articles of commerce here are wheat and sugar. The town stands on the north side of the River Moche, at about half a league from the sea; but the channel of its maritime commerce is the little port *Guaachaco*, nearly three leagues to the northward, and which is known by being under the highest peaks of the ridge of mountains that lines the coast. In this part there is a sensible difference between winter and summer; the former being cold, and the latter excessively hot. The soil of the valley is extremely fruitful, abounding with sugar-canes, maize, fruits, and garden vegetables, vines, and olives: the parts nearest the mountains produce wheat, barley, and other grain; so that the inhabitants enjoy not only plenty of provisions themselves, but export considerably to Panama, &c., especially of wheat and sugars. This remarkable fertility has been improved, to the great embellishment of the country: so that the city is surrounded by several groves and delightful walks of trees. The gardens, also, are well cultivated, and, under a continual serene sky, appear very beautiful.

PAYTA.—The town of PAYTA was visited by the Briton, in July, 1814. It is about eighty leagues to the north-westward of Truxillo, and is now a place of little consequence. The readers of Anson's Voyage will recollect that Payta was taken and plundered, in November, 1741: the name of the commodore is still treated by the inhabitants in a manner which denotes that the event is not forgotten. "Payta," says Lieutenant Shillibeer, "is situated under a dry, barren, and sterile, cliff, and consists of two or three rows of wretched houses, built of mud and bamboo, principally without roofs, and the most magnificent among them covered only with a thin hollow matting: however, this may with ease be accounted for, as Payta is situated within that latitude on the coast of Peru, where it was never known to rain. The interior parts of the houses present a very miserable appearance; yet I was assured that the inhabitants were wealthy.

"This place is badly supplied with water, nor do I imagine it possible for shipping to procure, without great difficulty, any quantity adequate to their consumption. The country, for many leagues, is barren and uncultivated. Piura is the nearest town, in whose jurisdiction it is."

On the route between Truxillo and Payta are the little isles called *Lobos de Afuera* and *Lobos de Tierra*. They are simply great rocks, frequented by seals, &c.

GUAYAQUIL.—The port of Guayaquil is the largest and finest on all the western coast of the southern continent. A particular plan of it is given on the Chart. The city of Guayaquil, S. Iago, is handsome, and the houses, though low, have arcades, which protect pedestrians from the sun and rain. The population is estimated at twenty thousand. Cacao or chocolate is the staple commodity; and good coffee, also, is produced here.

The climate of Guayaquil, now included in the republic of Columbia, is humid and unhealthy. In the vicinity of the city is a marsh, which, at times, infects the city with pestilential vapours. The streets of the town are straight, and sufficiently wide, but, having no declivity, the rain-water remains and occasions disorders, while the pools of water are made receptacles of filth. The water for drink is unwholesome, the river

river being tainted with streams from the marshes and filth of the town. A great advantage of Guayaquil is its advantageous position for ship-building, having abundance of woods in the vicinity, and provisions being very cheap.

The rainy season of Guayaquil is from January to June. The rains continue day and night, accompanied with frequent and dreadful tempests of thunder and lightning. Fevers, diarrhœas, dysenteries, vomiting, and spasms, are mortal diseases then prevalent. The summer, or dry season, which is rather the coldest, somewhat invigorates the inhabitants, who are, too generally, enervated. During the inundations the caymans, or alligators, and other reptiles, spread over the country; some are of enormous length; but, in the fair season, from June to December, they give little trouble. The beauty of the meadows and woods, when the inundation has subsided, surpasses all description.

On the eastern coast, at the mouth of the Gulf of Guayaquil, is the River Tumbez, which has a bar across the entrance, that renders its access difficult; but water of good quality may be obtained here. Monstrous alligators frequent this place, and Lieutenant Shillibeer says that several, which he saw, were from six to eighteen feet in length. "One of ten feet long was shot. They are of a dark green colour, with large and almost impenetrable scales, and, although in opposition to the opinion of many writers who have treated on the subject, I believe, of considerable bravery."

The town of Tumbez, at a small distance from the mouth of the river, is of inconsiderable extent, although of some celebrity in the history of Peru, from its having been one of the last towns subjected by the Incas, and the place where Pizarro and his companions landed on their first expedition into Peru."

SANTA ELENA.—The little bay or port of this name, on the coast to the west of Guayaquil, is distinguished by a high point of land, that appears exactly like an island, until within a short distance from the shore. On a sandy beach to the northward of the point is a small town, the inhabitants of which, chiefly, are indigenes of the country. The houses being nothing but frames or skeletons, and having no high land behind them, are singular in appearance. The floor, on which the people live, is six or eight feet from the ground, and the ladder by which they ascend is always drawn up at night, otherwise they would risk being bit by serpents, which infest the place, and whose bite is venomous. This reptile is very small, and nearly a yard in length. Fish and water may occasionally be obtained here.

The Isle Gorgona, on the south side of the Gulf of Panama, is surrounded by little islets. The coast hereabout is distinguished by its currents. The Bay of Choco, to the N.E., is remarkable for having a communication by water with the Gulf of Darien, which is practicable for canoes loaded with cacao, although the distance is seventy-five leagues.

PANAMA.—A particular plan of the Bay of Panama is given on the Chart. Panama is still a strong city, but was almost ruined by a terrible conflagration in 1784. Its present trade is chiefly with the villages in the neighbourhood, and Porto-Velo, &c. The neighbouring mountains produce excellent wood, especially the finest mahogany and cedar, with many balsams. The voyage hence to Guayaquil is easy and safe.

QUIBO.—The island Quibo, off the coast of Veragua, to the westward of the Bay of Panama, was visited, in 1794, by Captain Colnett, who made a survey of its S.E. Bay, called *Puerto de Damas*. "Quibo," says Captain Colnett, "is the most commodious place for cruisers of any I had seen in these seas; as all parts of it furnish plenty of wood and water. There are trees of the cedar kind of sufficient size to form masts for a ship of the first rate, and of the quality which the Spaniards, in their dock-yards, use for every purpose of ship-building, making masts, &c. A vessel may lay so near the shore as to haul off its water; but the time of anchoring must be considered, as the flats run off a long way, and it is possible to be deceived in the distance. The high water, by my calculation, is at half-past three o'clock; at full and change the flood comes from the north, and returns the same way, flowing seven hours and ebbing five, and the perpendicular rise of the tide two fathoms. I found several betel-nuts, which appeared to have been washed on the shore by the tide; but I did not see any of the plants that bear them growing on the shore, though several of my people, after we had left the place, mentioned their having seen many of them.

"It

"It would not be advisable for men of war, and armed vessels, acting upon the defensive or offensive, to anchor far in, as the wind, throughout the day, blows fresh from the eastward, and right on shore, so that an enemy would have a very great advantage over ships in such a situation. There is good anchorage throughout the bay: at five or six miles distance from shore, in 33 and 35 fathoms, with a mud bottom, and firm holding ground.

"The *Rattler* anchored in the Bay in 19 fathoms, with the north point in a line with the north point of the Isle Sebacco, bore N.N.E., the watering-place N. 44° W.; and the south point of the Isle Quibo S. 32° E., latitude by observation 7° 27′, and longitude 82° 10′.* We lay here till the 17th of February, and got on board forty-three tons of water, with some fire-wood. But, of other refreshments we obtained little, though we had parties constantly employed in trying both the water and the land for fresh provisions. After all, two or three monkeys, and a few doves, were all we got from the island; and its surrounding water afforded us only alligators, crabs, cockles, clams, periwinkles, oysters, and a few other shell-fish unknown to us. Several deers were seen among the thickets on the shore, as well as wolves, and the feet of some animals, which were supposed to be tigers, had left their impression on the sands. But the animals were all of them so shy, that they kept beyond the reach of our fire-arms, and it was equally difficult to take the turtle, which were seen in great abundance. That the birds and monkeys were quickly alarmed, may be readily accounted for, from the numbers of hawks and large vultures who feed upon them; as in the maws of some of the latter which we killed, young monkeys were found. The wolves and tigers may be supposed to keep the less offensive quadrupeds in a similar state of agitation; and the fish, as well as the turtle, may be harassed into an equal alarm by the alligators, sea-snakes, sharks, &c., all of which, particularly the first of them, seem to swarm on and about the surrounding shores.

"From one of them I had a very fortunate escape. As I was walking along the sea-coast, with a gun, and very attentive to the woods, in expectation of seeing some kind of fowl or game proceed from the thickets, suddenly my danger was discovered, of having passed over a large alligator, lying asleep under a ledge of the rock, and appeared to be a part of it; and, being in a deep hollow, I could not have escaped, if a little boy, the nephew of Captain Marshall, who had accompanied me, had not alarmed me with his outcry. I had just time enough to put a ball into my gun. The noise having roused the hideous animal, and he was in the act of springing at me, when I discharged my piece at him; its contents entering beside his eye, and lodging in his brain, instantly killed him; it was then taken on board, where part of him was eaten. In the stomachs of several of the snakes which we took, there were fish in an undigested state, and of a size that credulity itself would almost refuse to believe. These voracious animals, appear to have greatly lessened the quantity of fish on the shores of this island, which afforded such an abundant supply of delicious and salutary food to former navigators. The woods also abound with snakes of different kinds, the largest we saw were the hooded snakes. As I was sitting on a bank at the side of a rivulet, one of the smaller bit me by the left knee, which caused it to swell to that degree, that I had a doubt for some time whether it would not cost me my life.

"The vegetables and fruits we obtained on this island were but few. There were some coco-trees in the bottom of the bay; and we found beans growing near the spot, where the Spanish pearl-fishers or Indians had resided; and from whence, as we conjectured from the state of their fire-places, they were but lately removed."

ISLANDS OFF VERAGUA.—Captain Colnett has, also, described the isles to the westward and southward of Quibo; namely the Ladrones,† Montuoso,‡ and Quicaras. "The Ladrones consist of small barren rocks. Montuoso rises to a considerable height, and is five or six miles in circumference; its summit is covered with trees; the greater part are those which bear the coco-nut, and give it a very pleasant appearance, but islets and breakers extend off its east and west ends to the distance of three or four miles. The bottom is rocky on the south side, as is the shore near the sea. There is a beach of sand behind some little creeks that run in between the rocks, which makes a safe landing for boats. Here we went on shore, and got a quantity of coco-nuts with a few birds. The Spaniards or Indians had been lately here, to fish on the reef for pearls, and had left great heaps of oyster-shells. It may not, therefore, be im-

* The longitude here given is certainly wrong. See Table, page 42.——Ed.

† Mispelt Zedzones. ‡ Mispelt Mentuosa.

proper

proper to suggest to those who may hereafter find it convenient to land on this island, to be prepared to defend themselves, in case they should be attacked by any of its occasional visitors. There were a great plenty of parrots, doves, and guanas, and it is probable that other refreshments might be obtained, of which we are ignorant. At all events, it may be useful to whalers and cruizers, by offering a place where their sick may be landed, and coco-nuts procured, whose milk will supply the want of water. This island, according to my observations, lies in latitude 7° 15′ N., and longitude 82° 40′ W.* The Quicaras consist of two isles: the larger one is about six or seven miles, and the lesser about two or three miles, in length; they lie north and south of each other, with but a small space between them; and distant from the south end of Quibo, about twelve miles. The least of these isles is entirely covered with coco-trees; and the larger one bears an equal appearance of leafy verdure, but very few of the trees which produce it are of the coco kind."

The most commanding look-out for Quibo is the top of Quicara, which is supposed to have been mistaken by Lord Anson for a part of that island. It commands the whole coast and bay which have been described.

For Cocos, the Galpagos, and other Isles, see the respective notes to the Tables, pages 43 to 56.

ADDENDA.

1.—AZORES OR WESTERN ISLANDS, &c.

To Captain And. Livingston, formerly of Glasgow, and late of Liverpool, we have heretofore acknowledged our obligation for many important communications, and have again to repeat that acknowledgment for others recently transmitted, among which the following is included. Captain L. visited the Azores in 1821, and we give his observations, as transmitted in a letter, dated 20th May, 1822, which will, doubtless, be acceptable to the reader.

WHALE ROCK.†—While at Malaga, in September last (1821), Captain Finlayson, of the Duke of York schooner, of Portsmouth, informed me that some years since, when Captain Bartholomew, R. N. was at St. Michael's, about the time he was sent by the Admiralty in search of the Whale Rock; the Nautilus schooner, of Plymouth, arrived at St. Michael's. After Capt. Bartholomew's departure, the commander of that vessel told Capt. F. that, on his passage out, having a chronometer, he remarked to his mate that, if the Whale Rock existed in the situation assigned to it, they must pass near it. Accordingly, in the mate's watch that night, the vessel ran through a very heavy break, which alarmed them much; but, before they had time to take any precautionary measures, the vessel was again out of the broken water, and the captain believed they had passed close to the Whale Rock. No person about Angra seems to doubt its actual existence; and one man, I understand, gives a very distinct account of its appearance and situation; having, when he saw it, carefully noted particulars in his journal; he is an Irishman, mate of a trading vessel between Angra and Lisbon, but unfortunately was not at Angra, when I was there, or I should have endeavoured to see him. The last time Capt. Bartholomew was at Angra, this man was introduced to him, and stated, on being shewn Capt. B.'s former tracks in search of it, on the Admiralty Chart, that he never had been near its actual position.

It seems generally believed at Angra that actually two heads of rock are occasionally seen above water, and it is even reported that a vessel once passed betwixt them.

* The Spanish officers make it 7° 28′ N. and 82° 12′ W., which, we presume, is nearest to the truth.——Ed.

† For the Whale Rock, see our Memoir on the Atlantic, page 226. For Terceira, the same work, page 174.

St.

ST. MICHAEL'S.—In Dr. Webster's account of St. Michael's, recently published, are some farther particulars relative to the earthquakes, &c. about the time Sabrina Island rose, and it appears that the first appearance of a submarine volcano was (and left a shoal) to the westward of the spot in which Sabrina Island afterwards rose.

TERCEIRA.—Frequent slight shocks of earthquakes are felt at Terceira, one about four months ago. About six and a half or seven miles north of Angra, in a valley near the summit of the mountains, a great deal of steam issues from crevices of the earth, or rather clay, which clay, I am informed by a scientific gentleman here, is actually lava, decomposed by the action of sulphuric acid. Some of the clay looks, when cut by a knife, much like Castile soap: it is of various hues, and the natives of Terceira use it as paint. There are small quantities of sulphur formed around some of the apertures. The steam which rises is very hot: we cooked some eggs by laying them among the clay, at mere cracks whence steam issued. My thermometer ranged only to 152° of Farenheit's scale. I exposed it to the steam at the first aperture I reached, but the mercury rose so rapidly, that, from fear of bursting the tube, I was obliged to withdraw it in, I think, about three or four seconds. Persons visiting Angra, who have any curiosity in their composition, should see this *fulnaso* or *souffriere*. The access to it is by no means very difficult, though, if you ask any of the Portuguese, they will describe it as accessible only at some periods of the year. One may ride to within less than half a mile of it. Poneys, or asses and guides, may readily be hired.

The CITY OF ANGRA is generally very regular, the situation beautiful, and the streets have regularly excellent flagged foot-paths. The houses commonly of three stories. Mount Brasil on the land-side seems very strong, but might, on the side next the bay, I think, be carried by a *coup de main*. Fort St. Sebastian, on the Puerto Pipas side of the bay, is a small but strong fort, and could scarcely be surprised. These fortifications were erected by the Spaniards when they were in possession of the island.

Some vessels, mistaking Praya for Angra, have stupidly run in there; but the Goat Islands and Mount Brasil are sufficient to show the most entire stranger the difference: I annex a sketch of the Goat Islands.

GOAT ISLANDS *near* ANGRA, *in* TERCEIRA.

Sketched at 9*h.* a. m, *25th January*, 1822, *when about two miles distant; the weather being hazy, and the tops of the mountains of Terceira covered with dense masses of clouds. Point at the ~ bearing N. by E. by compass, and that at ~ ~ N.E.* ½ *N. also by compass.*

The better sort of people in Angra (natives) are very hospitable and kind, but full of ceremony. The poor people are generally very clean, and none seem in want of the necessaries of life. None of that wretchedness which we so often see in this country is visible; but many of the older peasants have their clothes, though clean, so industriously patched, that it is next to, or altogether, impossible even to conjecture of what colour they originally were.

The Terceira fruit (oranges) has improved much of late years; more attention having been paid to its culture, and it is now little, if at all, inferior to the St. Michael's.

Very good linen is made in the island, and they manufacture a coarse earthen-ware, the clay of which it is made being imported from St. Mary's. No noxious animal is known; nor, though there are many dogs, has hydrophobia ever made its appearance. The natives rear a great many swine, most of which are remarkably broad backed. Their backs are generally shaven; which, it is alleged, allows them to spread in fattening.

Bloody flux is very frequent, both among strangers and natives, and is often fatal. A Scotch surgeon there told me it was the worst disease he met in the island.

Vegetables are excellent and cheap. Poultry and eggs good and reasonable; beef and mutton tolerable, the former about three pence per pound. Some of the island

wine is tolerably good. The *vino tinto* of Pico, made from the Oporto vine, propagated in Pico, I think excellent, but it is not plentiful. The *teixo* wood, mentioned in your Memoir, is the same as our yew. I saw furniture which was made of it, and saw some plants of it in a gentleman's flower-garden: it grows remarkably slow. There are some fine pine-woods in the island. A good deal of box-wood and some cedar. Plenty of juniper, the berries of which are so very strong as to leave a very unpleasant taste for a long time in the mouth after chewing them.

There is plenty of pumice-stone, but of a coarse quality, in the island, and every where marks of volcanic agency are apparent. Water is good, but not so easily procured as might be supposed. At FAYAL water is both bad and scarce, though your Memoir says otherwise. This I state from the information of persons I can depend on. No vessels ought to go to Angra without two good chain-cables. The bottom in the bay is generally too foul for any trust in hempen cables.

I was surprised to see a pretty fair bunch of bananas one day carried by a peasant. They have apples, pears, figs, chesnuts, and walnuts, and, I have heard, some olives. Gooseberries and currants, I am told, have been tried, but have not succeeded. They have a very fine tough willow, which makes excellent hoops and baskets. In Fayal a great quantity of very neat baskets are made. I neglected to enquire if they have peaches, apricots, and nectarines, but they have abundance of grapes. They have plenty of yams, Indian corn, wheat, and excellent barley, also tolerable potatoes. The market is generally well supplied with good and cheap fish. Rabbits and quails are plentiful; thousands of black-birds, fine turkeys, few or no geese: no peacocks and no pheasants: a few red-legged partridges; and, I have heard it positively asserted that, there are some grouse on the mountains, yet I doubt the fact. There is a good deal of orchilla weed, which is of a grayish colour, sometimes slightly tinged with a reddish colour, and is *famous, not for its scarlet colour*, but for producing a scarlet colour or dye. It is monopolized by the government.

2.—CAPE VERDE ISLANDS, &c.

Captain Jas. Wallace Monteith, formerly commander of the ship Fame* of Liverpool, and latterly of the Mary, East-India free trader, on the 27th of February, 1818, made the S.W. point of S. Antonio, by lunar and chronometric observations, 25° 25′ W., which confirms the statement given in the Atlantic Memoir, Note 6, page 23.

The current from 3° to 2° N. was S.E. by E. in the twenty-four hours. The S.E. trade was gained in 1° 30′ N. Between 4° and 14° S. the Mary was set eighty miles westerly in five days.

3.—BRASILIAN TRINIDAD.

Captain Monteith made the longitude of the S.E. point of Trinidad (which we have assumed as in 29° 19′ W. on the authority of Captain Flinders,†) only 29° 4′ 56″, by chronometer and twenty-nine angular distances of sun and moon, in April, 1818. The mate, by lunars, made it 29° 6′ W.

4.—THE CAPE BANK *and* AFRICAN COAST.

Captain Monteith made Cape Agulhas in the longitude that we have it, 20° 15′ E. In latitude 35° 28′ S. and longitude 22° 15′ E. were found 70 fathoms of water, and fine green sand.

On the 14th of December, 1818, made the coast of Natal in 32° 30′ S. and 28° 49′ E. The low coast of white sand formed three hummocks when it bore N. 50° W. distant eight miles; no bottom with 100 fathoms. Noon, 15th, lat. 32° 26′ S. found that the current had set south-westerly, thirty miles in the twenty-four hours. At two *p. m.* made the land at the entrance of Great Fish River, bearing north, eight miles: longitude, by chronometer, 27° 26′ 45″. Dec. 16th, at noon, Cape Recife N. 40° W. by compass, lat. observed by circle 34° 9′ 23″ long. of Cape Recife 25° 43′ 30″. Made the longitude of Cape St. Francis 24° 55′ 15″.

* Not *Thames*, as stated in the Atlantic Memoir, page 98.

† See pages 14 and 24 of the present work.

5.—ST.

5.—St. HELENA.

Captain Monteith's observations place St. Helena to the westward of the situation assigned in our Table, page 13. James Town, by forty-four sets of lunars, in 1816, appeared to be in 5° 48′ 26″ W. By several sets on the 4th and 5th of January, 1819, ✱ ☉ ☽ ✱ ✱ 5° 46′ 36″ W. Captain Gillies, of the ship Caledonia, of Greenock, by an excellent chronometer of Barraud's, made it 5° 48′ 30″ W. The mean longitude of James Town, on these authorities, is 5° 47′ 50″ 50‴ W. (See Note 8, page 20.) This is given as an important object for future investigation.

6.—ISLAND OF ASCENSION.

The longitude of English Road, Island of Ascension, by four sets of lunars taken by Captain Gillies and Captain Napier.

First lunar	14°	17′	0″	Mean 14° 15′ 4″ W., or, if we reject the first, 14° 14′ 25″ W.
Second	14	14	30	
Third	14	14	15	
Fourth	14	14	30	

We have given it (page 13,) in 14° 15′ 30″. See Note 5, page 17.

[In making the preceding communications, Captain Livingston has informed us that Captain Monteith is a gentleman who was educated at the Glasgow Observatory, under his brother in law, Dr. Ure, and who had excellent instruments, having both Troughton's circle and sextant, a sextant by Wood, &c.]

7.—TRISTAN DA CUNHA.

Account of the Loss of the Ship Blenden Hall, on Inaccessible Island; 1821.

"The Blenden Hall, Captain Greig, from London to Bombay, was totally lost on Inaccessible Island, on the 23d of July. The commander, officers, and passengers, got safe on shore, but eight of the crew perished. They remained on the island, exposed to cold and rain, until the 8th of November, on which day the carpenter, and three or four of the crew, embarked in a small punt, made out of the wreck, with surgical instruments which were thrown on shore, and reached Tristan da Cunha, where they procured two whale-boats, and brought those that remained on Inaccessible Island away. On the 9th of January, a brig from Brasil put into Tristan da Cunha for water, and took them all away, and on the 18th of January they arrived safe at the Cape. During the time they were on the island they had no food but penguins and their eggs. Out of some bales of cloth, washed on shore, they made tents; an iron buoy, sawed in two, was their only cooking utensil. They were for four days exposed to heavy rains and intense cold, before they could procure fire. The ladies and passengers suffered severely, nothing being saved but the clothes they wore, the ship going to pieces two hours after she struck."

A further account states that the Blenden-Hall sailed from Gravesend on the 7th of May, and was lost on the day above mentioned, 23d July. It appears that the weather had been very thick; on the 22d, they had an observation, and found themselves near these islands, of which they wished to get a sight, in order to correct their reckoning. Consequently every look-out was kept for sea-weed, which is known to be an indication of nearing them: an altitude of the sun was taken at eight o'clock in the morning of the 23d, and, about ten, every body being on deck, sea-weed was discovered, and it was soon found that the ship was surrounded by it; the helm was put down; but, by reason of light winds and a heavy swell, the ship did not come round. Breakers were now heard a-head; the jolly-boat was lowered down with a tow-line, but with no effect, the wind having quite subsided, and the swell driving the ship on the rocks. An anchor was let go, but the extreme depth of the water did not allow it to take hold; the cutter was then lowered down to assist the jolly-boat in towing the ship's head round, when she struck. The weather was now so thick, from a mist or cloud, that the two boats could not be seen, though close alongside; nor could the land be discovered. The masts were then cut away; the fog blowing off, terriffic cliffs were discerned over their heads,

heads, at about half a cable's length, and the sea began to make a clear breach over the ship. The two boats now landed about two hundred yards off; and while those on board were endeavouring to throw overboard the long-boat, the ship filled, and went to pieces. The crew clung to the forecastle, some of the beams of which held fast to the rocks; and, on a hastily-made raft, eight men got on shore, and one was drowned. A rope was now flung from the shore to the remainder, and about four *p. m.* all were landed, without the least water, or a morsel of provisions. Water was, however, found; and provisions were supplied by knocking down penguins, collecting eggs, sea-elephants, and seals. Tents were erected with some of the coarse cloth and sails that were washed on shore; but it was four days before they could make a fire, in which they at last succeeded by means of a rocket which was washed on shore. On the 19th of October a boat was built, in which eight of the crew endeavoured to make Tristan da Cunha; but they have not since been heard of. On the 8th of November, a second boat was made, and ten of the crew succeeded in getting to that island; and, with the assistance of two whale-boats, the whole of the unfortunates were transported from their desolate situation by the 9th of January following, having been without bread for nearly six months. The brig Narina, of London, Lackland master, kindly took the crew and passengers thence to the Cape of Good-Hope, consisting of four ladies, three children, twenty passengers, and eleven seamen. Two seamen were drowned on the wreck, and eight are missing in the first boat that was built. Though this island is within sight of Tristan da Cunha, and every signal was made by means of fires, smoke, and flags, yet no assistance was rendered until the second boat made known their situation. This island is about nine miles round, is well wooded, and remarkably high; so much so, that it is a day's work to attain the summit, but is constantly enveloped in clouds, and visited with squalls; has no harbour or cove, and can only be landed on to leeward: a heavy swell constantly prevails, which prevented these sufferers from obtaining fish as a change in their diet. The unfortunate ship was four hundred tons burden, and had fifty-two persons on board, mostly passengers, bound to Bombay.—*Hampshire Telegraph.*

8. SHOAL *to the* SOUTHWARD *of the* CAPE *of* GOOD-HOPE.

"*Cape of Good-Hope*, 2d Feb. 1822.

"Lieutenant W. W. West, R. N., commanding the private ship Albion, has reported that, on his voyage from England to Mauritius, on the 30th of October, 1821, he passed over a bank or shoal, of considerable extent, to the south of the Cape of Good-Hope, not noticed in the Charts. Lieutenant W. had the best possible opportunity of ascertaining the exact position of the shoal, which he conjectures to be the long double Telemaque shoal; Lieutenant W. has, however, called it the *Albion Bank*; the N.W. end of which is in latitude 38° 20′ S., longitude 17° 3′ E. nearly; the S.E. end, lat. 38° 29′ S., long. 18° 58′ E. nearly."—*Newspaper.*

Observations by the Editor.—This is one of those vague notices of which we have had reason so frequently to complain. The longitude of the S.E. end may have been *originally* written 17° 58′. Even in that case the bank would be 55 minutes of longitude in breadth, from east to west. The depths of water are totally omitted, and whether it be dangerous or not is left to conjecture; nor can we determine, from the notice, whether the whole might not be merely a *discolouration of the water*, of which so many instances have been given. It cannot be the Telemaque Rock, noticed in the preceding pages 14 and 30, for that is too remote, and of a very different description. Upon the whole, we cannot but question the existence of an extensive bank in the situation assigned.

9.—COMMERCIAL DECREE.—BUENOS-AYRES.

"A commercial decree has been received from Buenos-Ayres, by which the government of that province imposes the following duties on articles imported by sea. The duties being made payable from the 1st of January, 1822.

"Quicksilver, woods, machines, agricultural implements, scientific instruments, books, paintings, engravings, sculptures, wools, and furs for manufacturing, molasses for distillation,

lation, plaster of Paris, lime, stone for building, fossil coal, nitre, stuffs embroidered with gold or silver, watches, silver and gold ornaments, pay five per cent.

"Colours for painting or dying, drugs, spiceries, medicine, powder, flints, pitch and tar, rice, raw and manufactured silks, to pay ten per cent.

"Sugar, tea, coffee, cacao or cocoa, &c. twenty per cent.

"Furniture, mirrors, carriages with their wheels and harness, saddles with their mountings, wearing-apparel, shoes, vinegar, beer, cyder, foreign tobacco, pay twenty-five per cent.

"With regard to wine and spirits, an exception is made. From the 1st of January to the 1st of October, wines pay thirty-four dollars per pipe, and spirits fifty dollars per pipe. After the 1st of October, wines pay at the rate of twenty-five per cent., and spirituous liquors thirty per cent.

"Wheat imported pays a duty, decreasing as the price of the article rises. When the price of the fenega does not exceed six dollars, the duty is four dollars. The duty decreases until the price rises to nine dollars the fenega, which pays one dollar. After that, there is no duty. Scales of duties are constructed on a similar principle for flour and salt. Hats pay three dollars each. The warehouse duty is reduced to ½ real per balto.

"The following duties are paid on exportation. Bullock leather, one real per piece; horse and calf leather, half a real per piece. Other articles of the produce of Buenos Ayres, four per cent. *ad valorem*.

"Silver, coined in bars or worked, two per cent.; gold, coined in ingots or worked, one per cent. Imported articles, upon being re-embarked, two per cent.

"Produce or manufactures, which have been introduced by land, shall be free of duty on exportation by sea, upon proofs of the payment of the duties to which the articles were liable on entering the province."—*Newspapers*, May, 1822.

10.—PORTUGUESE TERRITORIES.

"Sir, "*Portuguese Consulate General*, London, 18th Jan. 1822.

"I have to request the favour of your allowing the following communication being stuck up at your public room, or otherwise, for the better information of owners and captains of vessels navigating to the united kingdom of Portugal, Brasil, and Algarves.

"The Boards of Health prescribing to me the most rigorous orders, that no vessel, foreign or native, will be allowed to enter the said ports without a bill of health from the Portuguese consuls, and finding that several ships have sailed from this and other British ports to the Portuguese dominions, without said bill of health, it is incumbent on me to state that the Portuguese government is apprised thereof, and will continue to be so, in every refusal to take that document; the owners and captains of vessels, being thus aware of it, must not complain when they experience the consequences on their arrival.

"I have the honour to be, Sir, &c.

(Signed) "ANTONIO LOPEZ DA CUNHA."

"To John Bennett, jun. Esq. Secretary to the Committee of Lloyd's."

[For the TREATIES of FRIENDSHIP and ALLIANCE, of COMMERCE and NAVIGATION, between the crowns of GREAT BRITAIN and PORTUGAL, signed at Rio de Janeiro, 19th February, 1810, with some interesting Notes on the same, see Mr. Koster's Travels in Brasil, Vol. II. page 313.]

THE END.

PRINTED BY WEBB AND RIDER, LITTLE-BRITAIN, LONDON.

ERRATA.

Page 13, line 4, Catalina to be Catharina.
31, — 24, Captain Tebbets to be Tebbut.
31, — 22 from the bottom, *Lieut.* La Roche to be *Antony* La Roche.
40, — 24, Latitude of Point Queda to be 41° 5′.
58, — 16 from the bottom, *8 feet* to be 5 feet.
129, — 15 from the bottom, S. by W. to be S. by E.
152, — 7, easy to be easily.
173, — 20, luminated to be laminated.

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1821.

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